



COLLEGE
OF MEDICINE



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Editor: Karen Spear Ellinwood, PhD, JD

Inside this issue:

Practice Tips [1](#)

The Scoop on Policy [2](#)

Evaluation 24/7 [3](#)

Practice Tips continued... [4](#)

Upcoming FID Events [7](#)

Program Update | Clinical Years [8](#)

Recent Publications by UA CoM Faculty [9](#)

Teaching with Technology [10](#)

Contact Information [11](#)

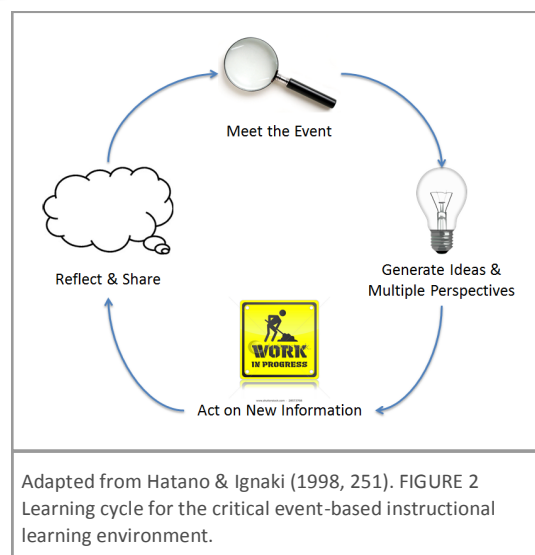
Practice Tips *Let's Get Metacognitive*

Karen Spear Ellinwood, PhD, JD

Researchers studying metacognition have developed protocols to promote the externalization of thinking, that is, to make thinking visible. The purpose is to study the processes of thinking and identify the kinds of experiences that promote particular kinds or dimensions of thinking.

This work has implications, not only for how to conduct research, but for teaching and giving feedback. In any educational experience, instructors should have a sense of how they want learners to think about the topic or problem presented. Bloom's Taxonomy helps us to do this. For example, the instructor should consider whether the learners possess beginning, intermediate or advanced knowledge or skills, and, therefore, whether they should expect them to simply recall or identify concepts or vocabulary, or to delve more deeply by analyzing, evaluating, synthesizing or applying that knowledge to practice situations.

The former types of cognition involve lower-order thinking, according to Bloom's taxonomy. The latter involve higher-order thinking (Krathwohl, [2002](#)). Both of these could involve metacognitive engagement.



Adapted from Hatano & Ignaki (1998, 251). FIGURE 2 Learning cycle for the critical event-based instructional learning environment.

Simply put, metacognition is thinking about thinking. Educators who want to promote reflection in the learning process are really seeking to trigger students' metacognitive engagement. They want the learner to not only brainstorm ideas but to consider whether the methods they use to brainstorm are effective or efficient. Perhaps, the instructor asks the student to reflect on past performance or identify errors and articulate strategies for how they might avoid error in the future.

All of these involve thinking about the process of learning. They are asking for various kinds of metacognitive engagement in learning and development.

Having to think about structuring or designing educational activity in this way has another consequence: It promotes reflective or metacognitive engagement in teaching. Educators, then, must consider is this activity the most effective way to promote that kind of thinking or to guide the learner in achieving the

(Continued on page 4)



Resident &
Faculty
Instructional
Development

Key Provisions

UHAP 4B.2.01. Annual Performance Review Process

The annual performance review will evaluate the academic professional employee's performance in his or her department consistent with that department's responsibilities, University and Board policies. For academic professional employees whose responsibilities include teaching, the annual review will include peer and student input, including student evaluations of classroom performance in all classes, and other expressions of teaching performance. ➡ [LINK](#)

UHAP 4B.2.02 Annual Performance Review Criteria For Academic Professional Employees

Written evaluation criteria, as established in Section 4B.2.01 will differentiate between satisfactory and unsatisfactory performance and must be in accordance with the mission and goals of the department, college or division, within the norms of the discipline, and must be approved by the college dean or appropriate vice president, and the Provost. ➡ [LINK](#)

NEXT ISSUE

⇒UA FID Policy updates Article IV

⇒UHAP—More about the PIP

CONTACT US



UHAP

Policy on Peer Review of Teaching

The November issue of Med/Ed eNews outlined the University of Arizona requirements for inclusion of peer evaluation of teaching as a component of the annual performance review of non-tenure and tenure track faculty (University Handbook For Appointed Personnel [UHAP] [3.2](#); [3.2.01](#)). Department heads or chairs have the discretion to ask faculty with rating of “needs improvement in more than one area” to create a Performance Improvement Plan (PIP) as well.

Where do the criteria come from?

[UHAP 4B.2.02](#) requires departments to establish “written evaluation criteria” to “differentiate between satisfactory and unsatisfactory performance” in the annual review of performance of academic professionals. Such criteria must be aligned with the Department’s and College’s mission and goals. In addition, [UHAP 4B.2.02](#) requires approval of these criteria by the college dean or appropriate vice presidents as well as the Provost.

What should the criteria include?

The annual performance review of faculty may “consider teaching effectiveness, research and scholarly growth, creative activity, academic professional activity, and service and outreach” (UHAP 4B.2.02). One component of the annual review involves evaluating teaching effectiveness, applying “a **systematic assessment** of both student and peer opinion, if applicable” (*id.*). UHAP states that the annual review should focus “substantial emphasis ... on the most recent year for evaluation of teaching” (UHAP 4B.2.02).

What happens if teaching is eval-



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uated as “unsatisfactory”?

If a tenured faculty member receives a rating of “unsatisfactory in any area of responsibility”, including teaching, the Department will require them to participate in “either the Faculty Development Plan or the Performance Improvement Plan, depending upon the extent of the deficiency or deficiencies” ([UHAP 3.2.05](#)).

The PIP is an individualized plan that specifies the “deficiencies” and describes “reasonable outcomes” aimed at improving performance in these areas (UHAP 3.2.05.b.1). The PIP must include a timeline for achieving these “benchmarks and expectations” and criteria for the post-intervention evaluation (*id.*). The UA is required to “make reasonable efforts to provide appropriate resources to facilitate the PIP’s implementation and success” (*id.*). The UA Office of Instruction and Assessment (OIA) has resources for evaluating teaching and conducting peer observations of teaching, as does both the Academy of Medical Education Scholars (AMES) at the College of Medicine and this unit, [OMSE Faculty instructional development](#).

If you would like assistance or more information about access to UA resources in developing a systematic approach to peer review of teaching for your department’s annual review of performance, please contact me.

Evaluation & Research

[2.1] Program Theory**Evaluation Framework****Goals & Objectives****Logic Models****Design, Methods & Analysis**

Without a clear program theory that identifies the intermediate steps, immediate outcome, and long-term outcome, it is difficult to conduct a high-quality evaluation that provides meaningful results.

In the first articles of the evaluation 24/7 series focused on the difference between evaluation and research as well as ethics in evaluation. Although there are important distinctions between evaluation and research evaluation projects should also abide by ethical standards similar to those that govern human subjects research. Evaluators should abide by the American Evaluation Associations Guiding Principles.

- Systematic Inquiry
- Competence
- Integrity/Honesty
- Respect for People
- Responsibilities for General and Public Welfare

In this article we will talk about program theory because evaluation and program theory are closely linked. Program theory (or a model) “presents a systematic way of understanding events of situations. It is a set of concepts, definitions and propositions that explain situations by illustrating the relationships between variables (Rimer & Glanz, 2005). Ideally before any program

is implemented the planners have used an appropriate program theory to create a model for how their program should work (the relationship between variables) and the anticipated outcome. For example if you wanted to create a program to increase physical activity by focusing on individual motivation you might look [The Health Belief Model](#), [The Stages of Change Model](#), or [The Theory of Planned Behavior](#). If you wanted to create a program to increase physical activity that focused on changing community norms you might use [Communication Theory](#) or [Diffusion of Innovations theory](#).

In medical education, if you want to enhance the feedback process for medical students, you would identify models of effective communication of feedback aligned with the educational theory underlying the curriculum of the broader medical education program. For example, the UA College of Medicine has a developmental curriculum, supported by a constructivist approach to learning and development, and emphasizing reflective engagement in learning ([Educational framework](#)). The UA



Bryna Koch, MPH

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CoM curriculum aligns with this theory and reflective emphasis in a number of areas. For example, case-based instruction utilizes a structured approach to medical problem solving that incorporates both self-regulated and collaborative learning and emphasizes student reflection to prepare for, participate in and follow facilitated sessions on case scenarios. The Societies program asks students to reflect on their progress and challenges, and to identify goals for development and improvement, in concert with feedback conversations with mentors. Students also engage in reflective writing to develop self-awareness and empathy.

Program theory identifies the immediate step towards change when learners complete program participation. It also identifies the longer term outcome that manifests the goal of the program (Lipsey & Pollard, 1989).

Without a clear program theory that identifies the intermediate steps, immediate outcome, and long-term outcome, it is difficult to conduct a high-quality evaluation that provides meaningful results. A lack of articulated program theory renders a summative or outcomes based evaluation especially challenging. Using a program theory in the design stage moves the pro-

(Continued on page 6)

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learning objectives, and so on.

Strategies aimed at promoting metacognitive engagement can be called provocative strategies (Spear-Ellinwood, 2011). There are many such strategies that can be derived by examining the research methodologies used to study metacognition found in peer reviewed literature and other scholarly resources

Think *aloud* protocols, for example, are used to make thinking visible. Typically, participants are asked to explain what they are doing and how or why they are doing it as they are doing it. (Ericsson & Simon, [2010](#)). In fact, “Thinking aloud has now gained acceptance as a central and indispensable method for studying thinking,” (Id., 182). “[S]uch verbalizations present a genuine educational opportunity to make students’ reasoning more coherent and reflective,” (Id., 183).

For example, in the process of thinking aloud, participants may demonstrate a heightened awareness of their thinking process and, often, adjust their next steps to accommodate what they are observing about their approach to solving a problem or making sense of some experience, text, image or other object.

The use of think aloud protocols are not restricted to research labs. Educators may use think aloud protocols to encourage students to reflect on what they are doing and why and how they are doing it. That increased awareness may serve not only the acquisition and/or application of knowledge but the expansion of what Vygotsky (1978/1933) calls, *psychological tools* or what’s become known as tools of the mind (van der Veer, 1999).

These are, ideally, the expected consequences of engaging in an effective learning situation. Educators can design educa-

tional activities to promote this heightened awareness.

Donald Schön (1983) addressed such an approach as encouraging learners to reflect IN and ON the situation. Plack and Santasier (2004, 2005) later refined this framework to include reflecting FOR learning (a planning process). Educators in classroom or clinical learning situations may invite students to engage in reflective thinking or

“

There are now many investigators studying comprehension and problem solving who analyze the detailed structure of verbalized thought with the goal of identifying the critical thought processes that mediate more effective learning and improved transfer (Berardi-Coletta, Buyer, Dominowski, & Rellinger, 1995; Renkl, 1997; Trabasso & Suh, 1993).” (Ericsson & Simon [2010](#), 183).

metacognition to prepare for, engage in, or reflect on learning experiences. OMSE FID refers to this as the B-D-A (Before-During-After) framework for teaching. The educator invites the learner to prepare for, engage in and reflect on patient encounters or other learning experiences. In turn, the educator engages in reflection on which experiences would be most appropriate in guiding students to achieving the learning objectives. Reflective teaching also includes consideration of the effectiveness of educational strategies to inform future

teaching. Such strategies may be categorized in a variety of ways.

The following section describes four provocative strategies and provides examples of how these are applied in the UA College of Medicine undergraduate medical education curriculum.

- Adaptive strategies
- Concept-based strategies
- Inquiry-based strategies
- Narrative strategies

Adaptive Strategies

Guided Mastery/Peer Teacher

Adaptive expertise is recognized as something as a tool of learners with more expertise and experience ([Ericsson](#), 2014, 179). Adaptive strategies, then, refer to deliberate strategies aimed at adapting what one has learned to do in one context to another context or variation on previous application. This strategy anticipates a learner with an established ability to self-regulate, that is, to act as their own teacher (Hatano & Ignaki, 1986).

Students who tend to demonstrate facilitator-like behaviors, for example, in Case-based Instruction (CBI) are approximating mastery of sufficient, perhaps specific, content or procedural expertise that enables them to serve as a peer instructor or leader. To use this strategy deliberately, a CBI facilitator might ask students to lead the discussion toward synthesis of case facts and applicable knowledge or concepts. Students would convey not only what they know but how they develop arguments and ideas or may guide peers in developing their knowledge or application of concepts. This strategy also can instill a

(Continued on page 5)

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sense of confidence in the peer-teacher.

It requires learners to engage in reflective awareness of the learning process as they devise successful strategies to lead the discussion or deliberation of facts and application of knowledge.

This strategy should be employed with guidance from an educator who can engage the *peer teacher* in reflective discussion about the process of preparing to teach, teaching, and improving through self-assessment.

UA CoM Curriculum Example

While this strategy could be employed in any small group learning situation, the UA CoM curriculum offers a specific application of this strategy in its elective course allowing fourth year medical students to serve as CBI student facilitators under the guidance of a faculty CBI facilitator and a supervising team of educators, [Paul St. John, PhD](#), Co-Director, CBI, and [Susan Ellis, MA, EdS](#), Program Manager, Assessment of Student Performance. The elective requires the peer teachers to write a reflective paper on the experience of teaching.

Concept-based Strategies Concept-mapping

This strategy, sometimes referred to as [mind-mapping](#), requires the learner to create a visual outline of related concepts that identifies the purposes, functions, and relationships among concepts, data or tools, and their application to a particular case, and the connections among these. This process can help students learn how to devise a framework for sorting through large amounts of information.

UA CoM Curriculum Example

This strategy is employed by students in Case-based Instruction (CBI), often to create a method of strategically narrowing the differential diagnosis in facilitated sessions.

Students draw on the whiteboard, for example, the categories of conditions they are considering and how they relate to facts of the case to identify what they need to know to resolve it. Identifying connections among concepts and articulating their reasoning for making these connections is an important part of concept mapping. The strategy employs, for the most part, graphic or visual tools.

In the OB/Gyn clerkship, residents have asked students to read two or three scholarly articles and map the concepts addressed in these to synthesize information pertinent to practice and then use the map to guide a discussion of the concepts with residents.

Reflective Inquiry: Evidence-based decision making

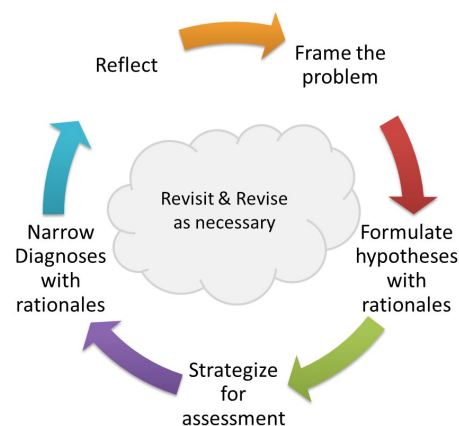
Evidence-based decision making is the "systematic application of the best available evidence to the evaluation of options and to decision making in a variety of settings" (Hammer, et al. 2004). The learner deliberately assesses and synthesizes information to determine whether and to what extent reasonable inferences can be drawn, and is aware of how to assess the nature and import. Learners reflect during and following a learning experience to enhance awareness of self, process and outcome and the inter-relationship of these.

UA CoM Curriculum Example

Again the approach to CBI provides an example of how reflective inquiry, specifically

evidence-based decision making is used at the UA College of Medicine.

We use a structured approach to medical problem-solving involving a 5-step, iterative process of reflection (Figure, left) before, during and following each CBI case.



Students begin by framing the problem, that is, considering what it is they seek to explain about the patient. They receive new releases of information after formulating initial hypotheses and must determine how this new data might change their developing dif-

ferential. They must identify what else they need to know and describe why they think it will help them to differentiate potential diagnoses. They receive more information and repeat the process and then meet with their group. After working with their group to finalize a diagnosis, students reflect back on the case, their process, errors they might have made and, as they progress through the curriculum, they begin to give themselves advice for how to improve their problem-solving in future cases. /kse/

[FID Resources]

- ⇒ [Adaptive Strategies](#)
- ⇒ [Concept-based Strategies](#)
- ⇒ [Inquiry-based Strategies](#)
- ⇒ [Narrative Strategies](#)

[1.4] Program Theory

(Continued from page 3)

gram designers beyond their assumptions about how a program might work. It helps us establish in concrete terms the intended outcome of the program (e.g., increase in knowledge or skill, improved attitude or behavior, decreased risk factors).

Sometimes programs develop naturalistically. This does not mean they are without a program theory, but that special attention should be dedicated to articulating, elaborating and clarifying the theory for both the program's sustainability and further development as well as for program evaluation. If you are embarking on an evaluation and discover that the program or intervention was not driven by theory, it is essential to build in time and dedicate effort to working with the program staff and stakeholders to clearly state their theory of the program, and determine the educational theory that supports a successful implementation of the program. Proceeding with an evaluation without knowledge of the underlying program theory can lead to "narrow and sometimes distorted understandings" (Alkin & Christie). Identifying and articulating the program theory will assist in clarifying or re-establishing program goals, outcomes and intermediate outcomes (in some circles, known as milestones).

Programs without a clear theory may benefit from different evaluation methods. For example, conducting focus groups and interviews as part of a process (formative) evaluation for a program that has developed naturalistically is a good way to un-

derstand more about how a program works and the change or outcomes it is affecting. As with the first Evaluation 24/7 column, always begin

Ultimately, "a useful theory makes assumptions about a behavior, health problem or environment that are logical, consistent with every day observations; similar to those used in previous successful programs; and supported by past research in the same area or related ideas" (Rimer & Glanz, [2005](#)). Conducting a high-quality evaluation (the right methods for the right program in order to attain meaningful data) depends on good theory-based program design based and an alignment of the evaluation to that theory.

/BK/

About Evaluation 24/7

Evaluation 24/7 is a new segment of *Med/Ed eNews*! Bryna Koch, MPH, is the Program Analyst for OMSE at UA CoM. This section will begin with an introduction to program evaluation. Each month, Ms. Koch will feature the next in the sequence on program evaluation.

Please contact Ms. Koch if you have questions about program evaluation or would like guidance for a project involving program evaluation.

CONTACT

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References

Lipsey M W & Pollard J A. Driving toward theory in program evaluation: More models to choose from. *Evaluation and Program Planning*, 12, 317-328; 1989.

Rimer BK & Glanz K. *Theory at a glance: a guide for health promotion practice* (Second edition). NIH Publication No. 05-3896 



Faculty instructional
development

Upcoming FID Events

AMES/OMSE FID Series 2014-15



Bryna Koch, MPH, Director

Program Evaluation & Student
Assessment,
College of Medicine



**Philp Harber, MD, MPH, Profes-
sor**

Mel & Enid Zuckerman College of
Public Health

Lessons Learned from Examining Clinical Practice: How We Know What to Teach in Clerkship

Description

Dr. Harber will describe the background and purpose of the Occupational Medicine Practice Project, its relevance to education and practice and present key findings. Director Koch will address the applicability of this research to medical education and implications for identifying and prioritizing clinical skills, procedures and other educational activities.

Event Information

Date: 15 January 2015—**Time:** 12:30—2:00 pm—**Room:** COM-3230

TWT Series No. 05 2014-15



John Hall, PhD
AHSC BioCommunications

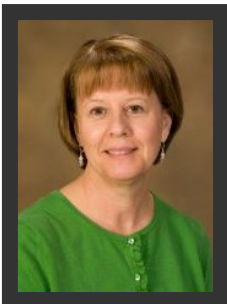
AHSL Recording Studio

Description

This TWT Workshop will introduce faculty to Participants will learn how to use the AHSL recording studio to assist them in developing short presentations, including flipping the classroom. Faculty will be able to: Operate equipment in AHSL Studio; and Use the studio as a tool in preparing short presentations or other multi-media materials to complement classroom and clinical teaching.

Event Information

12 January 2015—9:30 am—10:30 am—AHSL Recording Studio



Diane Poskus, MA

**Program Manager
Years 3 and 4**

Beginning with the 2014-2015 academic year, all clerkships adopted the electronic format for the NBME Shelf Exams. Armed with their laptops, the medical students are divided into 4 rooms where clerkship coordinators proctor the exam for 2 hours and 30 minutes. They have adapted well to this new process and it has been a smooth operation with the assistance of the COM IT Department.

Students have the opportunity to participate in rotations at rural sites over the course of their medical education. Amy Waer, MD, Associate Dean, Medical Stu-

dent Education, Carlos Gonzales, MD, Assistant Dean, Medical Student Education, Jordan Martin, BS, and Diane Poskus, MA, embark on regular site visits to our rural preceptors in all areas of Arizona. On October 7-9, 2014 they will travel to Kingman, Bullhead City and Ft. Mohave to touch base with preceptors and visit their facilities.

Click on the hyperlinks below to find useful information and resources for teaching in clerkships:

⇒ [2014-2015 Academic Calendar](#)

⇒ [2015-2016 Academic Calendar](#)

⇒ A [directory of clerkship directors and coordinators](#) has been compiled for 2014-2015.

⇒ The [2014-2015 General Clerkship Instructor Manual](#).

⇒ The UA College of Medicine [Educational Program Objectives](#)!

/DP/

Update | Clinical Years

[Clerkship Manual]

The General Clerkship Manual contains information regarding student and faculty policies, and has hyperlinks to information about:

- ◆ Attendance policy
- ◆ Duty hours
- ◆ Faculty policies
- ◆ Grading and progression
- ◆ Professionalism and integrity
- ◆ Risk management and
- ◆ Student health.

Contact

dposkus@medadmin.arizona.edu

Search Tools at AHSL



Recent Publications by UA CoM Faculty

- ➔ Beskind D L, Hiller K M, Stolz U, Bradshaw H, Berkman M, Stoneking L R, Fiorello A, Min A, Viscusi C, Grall KJH, Does the Experience of the Writer Affect the Evaluative Components on the Standardized Letter of Recommendation in Emergency Medicine?, *The Journal of Emergency Medicine*, Volume 46, Issue 4, April [2014](#), Pages 544-550, ISSN 0736-4679. [📄](#)
- ➔ Grall K H, Hiller K M & Stoneking L R. Analysis of the Evaluative Components on the Standard Letter of Recommendation (SLOR) in Emergency Medicine. *West J Emerg Med*. 2014; 15(4):419-423. [📄](#)
- ➔ Grall K H, Stoneking LR, DeLuca LA, Waterbrook A L, Pritchard TG & Denninghoff K R. An innovative longitudinal curriculum to increase emergency medicine residents' exposure to rarely encountered and technically challenging procedures. *Adv Med Educ Pract*. 2014; 5: 229-236. [📄](#)
- ➔ Hiller K, Viscusi C, Beskind D, Bradshaw H, Berkman M & Greene S. Cost of an Acting Intern: Clinical Productivity in the Academic Emergency Department. [Volume 47, Issue 2](#), August 2014, Pages 216-222. [📄](#)
- ➔ Martinez GF, Lisse J, Spear-Ellinwood K, Fain M, Vemulapalli T, Szerlip H, Knox KS. Finding a mentor: the complete examination of an online academic matchmaking tool for physician-faculty. *Southwest J Pulm Crit Care*. 2014;9(6):320-32. [📄](#)
- ➔ Min A A, Stoneking L R, Grall K H &

Spear Ellinwood K C. Implementation of the Introductory Clinician Development Series: an optional boot camp for Emergency Medicine interns. *Advances in Medical Education and Practice*, August 2014 [Volume 2014:5](#) Pages 275-279. [📄](#)

- ➔ Smith S, Shochet R, Keeley M, Fleming A & Moynahan K. The Growth of Learning Communities in Undergraduate Medical Education. *Academic Medicine*, [June 2014 - Volume 89 - Issue 6 - p 928-933](#). [📄](#)
- ➔ Stoneking LR, Grall KH, Min A, Dreifuss B & Spear Ellinwood KC. Role of an Audience Response System in Didactic Attendance and Assessment. *Journal of Graduate Medical Education*: June 2014, Vol. 6, No. 2, pp. 335-337; [2014](#).

Recent Publications in Medical Education Online

- ➔ 'Think-aloud' protocol for ICU rounds: an assessment of information assimilation and rational thinking among trainees [*Shahla Siddiqui*] [📄](#)
- ➔ Using social media to facilitate medical students' interest in research [*Abdulrahman A. Al-Khateeb, Hanan Y. Abdurabu*] [📄](#)
- ➔ Comprehensive Healthcare module: medical and pharmacy students' shared learning experiences [*Chai-Eng Tan, Aida Jaffar, Seng-Fah Tong, Majmin Sheikh Hamzah, Nabishah Mohamad*] [📄](#)
- ➔ Latin American undergraduate medical journals [*Patricio Alfaro-Tolosa, Romina Olmos-de-Aguilera,*

Alfonso J. Rodríguez-Morales] [📄](#)

- ➔ Meeting the global need for physician-scientists: a Middle Eastern imperative [*Lucman A. Anwer, Ayesha N. Anwer, Maryam Mahmood, Ahmed Abu-Zaid, Mohammad Abrar Shareef*] [📄](#)
- ➔ Retention of first aid and basic life support skills in undergraduate medical students [*Pim A. de Ruijter, Heleen A. Biersteker, Jan Biert, Harry van Goor, Edward C. Tan*] [📄](#)
- ➔ Medical student debt and major life choices other than specialty [*James Rohlfing, Ryan Navarro, Omar Z. Maniya, Byron D. Hughes, Derek K. Rogalsky*] [📄](#)
- ➔ Resident and attending physician perception of maladaptive response to stress in residents [*Lee Ann Riesenberg, Katherine Berg, Dale Berg, Charity J. Morgan, Joshua Davis, Robyn Davis, Arielle Schaeffer, Robert Hargraves, Brian W. Little*] [📄](#)
- ➔ Impact on house staff evaluation scores when changing from a Dreyfus - to a Milestone-based evaluation model: one internal medicine residency program's findings [*Karen A. Friedman, Sandy Balwan, Frank Caccace, Kyle Katona, Suzanne Sunday, Saima Chaudhry*] [📄](#)
- ➔ Challenges of medical student underperformance [*Rizwan Dewji, Dushyanth Gnanappiragasam, Abbas Dewji*] [📄](#)



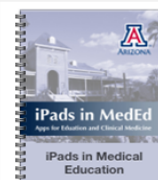
Teaching with Technology

iMedical Apps provides reviews of apps for use with smart phones and other devices. They categorize reviews by operating systems and devices, e.g., Androids, iPads and iPhones (see below).

Each review offers a description of the app (its purpose and functionality), and links to videos or other information from manufacturers or other reviewers.

iMedical Apps also creates lists of the Top 10 or Top 20 apps by device, including additional "honorable mentions". For each list, iMedical Apps describes the criteria to explain how each app made it to the Top 10 or Top 20. This service can be helpful to basic and clinical sciences faculty as well as students in finding the right app for the task you want to perform or ask students to perform. You can also search for apps, filtering results by specialty, platform and adding keywords (see below).

iPads in Medical Education



iPads in Medical Education
University of Arizona
Educational Technology
Released:

[View Item](#)

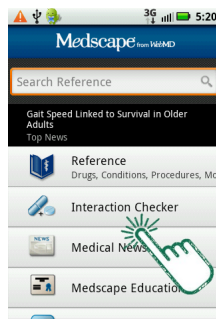
[iTunes U](#)

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In December 2013, Mike Griffith, MS, now with the UA College of Education, and Kevin Moynahan, MD, presented *iPads in Medical Education*. You can view the seminar [online at the FID website](#).

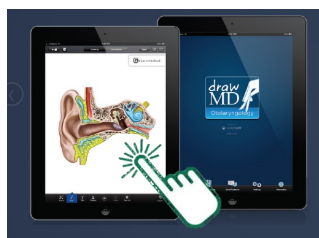
The screenshot shows the iMedicalApps website interface. At the top is a navigation bar with links: Home, Search for Apps, Top Apps, Specialties, Patient Apps, Forums, About, and Login. Below this is a search area with three main filters: Specialty, Platform, and Keyword. The Specialty filter lists: Anesthesiology, Cardiology, Dermatology, Emergency Medicine, and Family Practice. The Platform filter lists: Android, Blackberry, iPad, iPhone, and Windows. The Keyword filter has a search box labeled "Search by keyword..." and a "Filter" button. The iMedicalApps logo and "MEDPAGE TODAY" are also visible.

Apps for Androids & iPad & iPhone



*For iPad: Apps
Including Patient Education apps such as...*

- ⇒ Draw MD series
- ⇒ Cancer.net
- ⇒ inMotion 3D



For iPhones, apps including...

- ⇒ Epocrates
- ⇒ Medscape
- ⇒ Medical calculators (QxMD, MedCalc, and MediMath)
- ⇒ Heart Decide, First Aid
- ⇒ 3M Littmann Soundbuilder



COLLEGE
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FID Online

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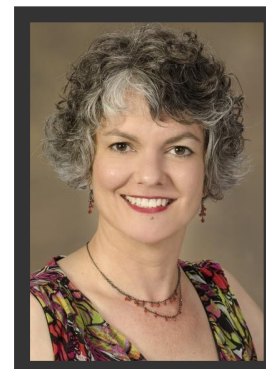
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