

What Methods Do Dental School Course Directors Use to Assess Students' Progress Toward Competency?

Selected Results of the 2008 Student Competency Assessment Survey

ADEA CCI Outcomes Assessment Task Force



Assessing Progress Toward Competence



Development of competence is a continuum



Outcomes



How Can We "KNOW" they are ready?



Agenda for this Presentation

- **Background – Outcomes Assessment TF**
- **Rationale & purpose of the study**
- **Survey methodology & sample**
- **Results:**
 - Bird's eye view of the results (big picture)
 - Primary assessments for each competency
 - Themes from written comments



ADEA CCI Outcomes Assessment Task Force

- Stephen Young, Chair; University of Oklahoma
- Judith Albino, Academy for Academic Leadership
- Laura Neumann, ADA
- Gene Kramer, ADA
- Sandra Andrieu, LSU School of Dentistry
- Lindsey Henson, Univ of Minnesota Medical School
- Bruce Horn – JCNDE
- Bill Hendricson; UTHSCSA Dental School



Charges: ADEA CCI Outcome Assessment Task Force

- Determine methods currently used for assessment of dental students' performance & their progress toward competency.
- Prepare a white paper to share findings & recommend best practices in evaluation of readiness for entry-level general dentistry.
- Develop a template suggesting appropriate strategies for evaluation of the new ADEA predoctoral competencies.



Purpose of This Survey

- Determine what assessment techniques dental school course directors are using to measure their students' progress toward entry-level professional competencies
- as defined by the ADEA "*Competencies for the New General Dentist*" (2008)
- Create baseline for longitudinal tracking



What is Competency?

- "A competency is a complex behavior or ability essential for the general dentist to begin independent and unsupervised dental practice. Competency includes knowledge, experience, critical thinking, problem-solving, professionalism, ethical values and procedural skills. These components of competency become an integrated whole during the delivery of patient care."
- **ADEA; Competencies for the New General Dentist. (2008)**



What is Competency?

- "Professional competence is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individuals and communities being served by the practitioner." (Epstein, 2002, JAMA)



Agenda

- Background
- Rationale & purpose of the study
- **Survey methodology & sample**
- Results:
 - Bird's Eye View
 - Primary assessments for each competency
 - Themes from written comments



Survey Methodology

- Online menu-driven survey with opportunities for write-in comments
- 21 questions -
 - 1- 5: respondent demographics
 - 6 - 12: respondents identified assessments for ADEA competencies from 19 options
 - 13 - 21: overall student assessment process
- Survey was piloted at 3 schools (n = 89)
- UTHSCSA IRB approval



Data Collection

- Survey link sent to Deans for distribution to course directors
- 4 Distributions:
 - March 17
 - April 7
 - April 21: non-responding schools
 - May 5 - 12: personal contacts



Respondents



Total response: 1,019 (925 usable)

Respondent profile:

- | | | |
|---------------------------|-----|-----|
| • Course directors | 835 | 90% |
| • Academic Affairs Deans | 49 | 5% |
| • Other / cannot classify | 41 | 4% |

52 of 56 U.S. dental schools responded (93%)

43% of estimated 2000 course directors at
U.S. schools (42% of 4,768 full-time FTE)

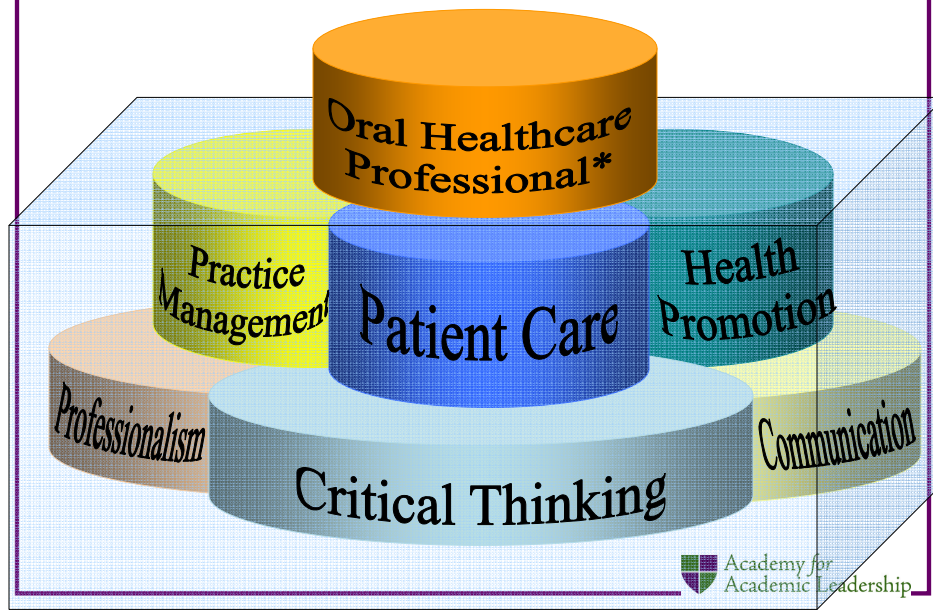


Handout

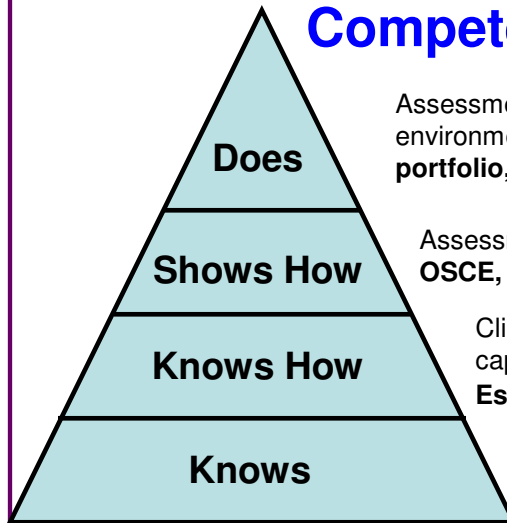
- ADEA 2008 Competencies for the New General Dentist
- Inventory of 17 assessment techniques included in the survey
- Most and least used assessments for each competency
- Checklist of competency assessment best practices recommended in literature
- Bibliography



2008 ADEA Competencies for General Dentist



Miller's Pyramid of Competence



Assessment in high fidelity work environment (OTJ): **SPs, observation, portfolio, CPEX, clinical 3 Jump, 360**

Assessment in controlled situations: **OSCE, sim labs, 3 Jump, Gateways**

Clinical context tests; assess capacity for conceptual application
Essays, oral exams, case MCQ

Tests of factual recognition
MCQ, reports

Miller GE. Acad Med. 1990; 65: 563-567



Bird's Eye View

ADEA Competency	Method Reports	% Total Reports	% Attempted Assessment
Critical Thinking	2795	19%	90%
Professionalism	1826	13%	64%
Communication/Interpersonal	1698	11%	59%
Health Promotion	1820	13%	61%
Practice Mgmt & Informatics	1534	10%	46%
Assessment, Dx & TxP	2427	17%	79%
Establish & Main Oral Health	2474	17%	78%



What Assessment Methods are Used?

Most Frequent – All Competencies Combined

Method	Reports	%
Case-based MCQ	2328	16%
Context-free MCQ	1746	12%
Daily evaluations in clinic	1744	12%
Clinical competency examinations	1603	11%
Technical skill evaluations in labs	1166	08%
Student self-assessment	1018	07%
	9605	66%

 Academy for
Academic Leadership

Infrequently Used - All Competencies Combined

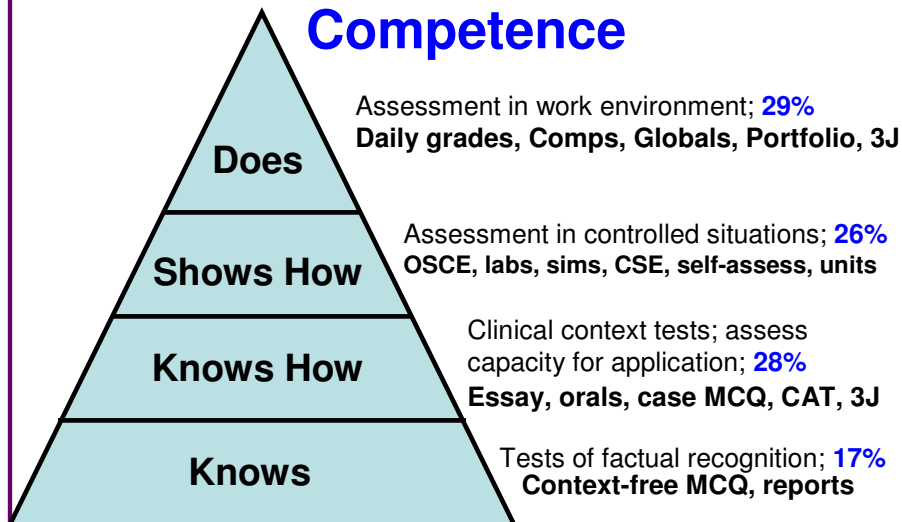
Method	Reports	%
Essays	553	04%
Oral (verbal) exams	548	04%
Global (long-term) evals in clinic	537	04%
Procedural units (requirements)	508	03%
Research projects & reports	507	03%
Computer-based simulations	435	03%
OSCEs	428	03%
	3516	24%

 Academy for
Academic Leadership

Rarely Used – All Competencies Combined

Method	Reports	%
Have competency, but no method	339	02%
Critical appraisal (EBP)	326	02%
Other: mostly clinical 3J – Dx / TxP	250	02%
Chart-stimulated evaluation	237	02%
Portfolios	148	01%
Triple Jump	124	01%
	1434	10%

Miller's Pyramid of Competence



How does your school make a comprehensive, overall, assessment of students' readiness for graduation / entry to practice?

Pass all courses, get all requirements, complete all rotations, pass all comps, etc	67%
Complete senior year satisfactorily in group practice with consistent core of faculty (e.g., in-school internship)	7%
Srs must pass a series of competency exams that are "gatekeeper" assessments	7%
Departments certify students are competent in their disciplines	4%
I don't know	15%



Is your competency assessment process "requirement-driven"?

Option	Course Directors	ADAA
Yes – for the most part it is	29%	27%
It's a mixture ; in some depts "YES" and "NO" in other departments	43%	50%
No – competency assessment is not requirement-driven in any area	21%	23%
Don't know	7%	-0-



Are Students Assigned to Clinical Group Practices & When?

	Course Directors	ADAA
Yes – all four years	12%	33%
Yes – Soph, Jr & Sr yrs	13%	19%
Yes – Jr & Sr yrs only	25%	19%
Yes – Jr year only	1%	-0-
Yes – Sr year only	8%	3%
No – don't have group practices	21%	26%
Don't know	20%	-0-

 Academy for
Academic Leadership

Does Your School Employ “Gateway” Competency Exams that are “Must Pass” to Advance / Graduate?

	Course Directors	ADAA
Yes – end of freshman yr	0%	0%
Yes – end of sophomore yr	6%	11%
Yes – end of Junior yr	4%	7%
Yes – end of several yrs	22%	22%
No gateway exams for any year	25%	57%
Don't know	43%	3%

 Academy for
Academic Leadership

How is Your Mock Board Used For Student Assessment?

	Course Directors	ADAA
Mock board is mandatory but not graded; feedback is provided	17%	21%
Mock board is voluntary & not graded; feedback provided	5%	12%
Mock board performance is part of senior year evaluation	9%	4%
Seniors must pass mock board to graduate	33%	59%
Don't know enough to answer	36%	4%



What is Your Level of Confidence That Your School Makes Accurate Decisions about Students' Readiness to Function as A Beginning General Dentists after Graduation?

	Course Directors	ADAA
I have high confidence	44%	70%
I am somewhat confident	41%	30%
I have low confidence	4%	-0-
I am not confident at all	1%	-0-
Don't have enough information to answer	10%	-0-



Approx 700 Written Comments

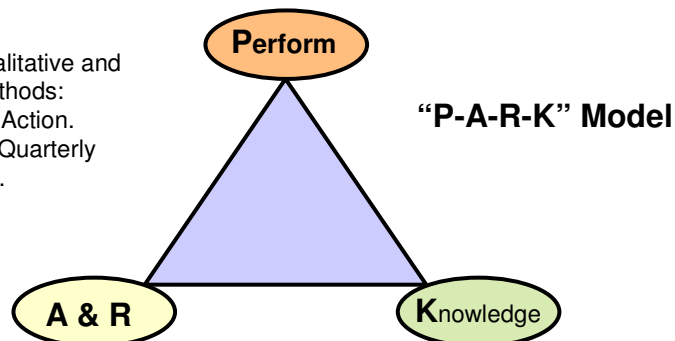
- Recognition that some competencies are assessed too much & others are not adequately assessed (low hanging fruit; numbers game)
- What is general dentistry? Time & requirements define student & faculty concept.
- Efforts to diversify assessments; pride
- How to achieve “wholistic” big picture appraisal of students’ overall competency?
- I know “my piece of the pie” but don’t see big picture; assessments lack coordination



Faculty See Value of Multiple Measures

- Evaluations based on multiple data sources are more accurate than single-source measures

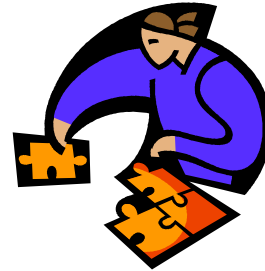
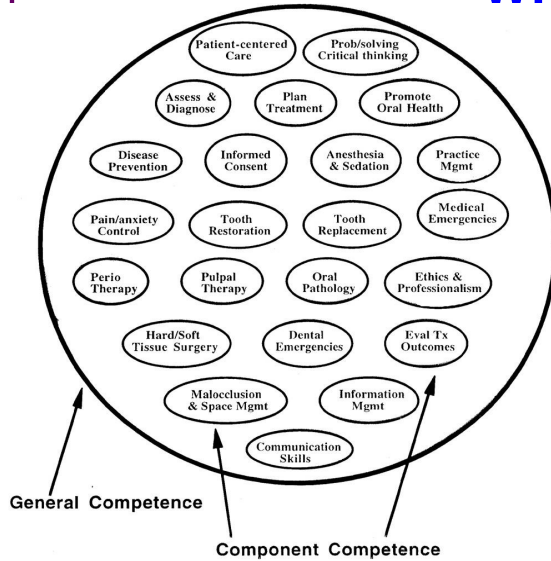
Jick. Mixing Qualitative and Quantitative Methods: Triangulation in Action. Admin Science Quarterly 1979;24:602-11.



Action Appraisal & Reflection



Desire to Evaluate “Whole Package”



Dental Education
Mostly assess individual
components of
competency

Academy for
Academic Leadership

Discussion Questions

- Do these data reflect your school's approach to assessment of students' progress toward competency?
- How well does your school do with “whole package” assessment?
- If you could make one enhancement in your schools' approach to competency assessment, what would it be?

Academy for
Academic Leadership