



Innovation

A departure from current practice

The University of Iowa has developed an innovative, practical guide to create collaborative learning and assessment tools for our learners to advance their thought process in the continuum from novice towards expert.

In order to emulate an expert's thought process, we interviewed recognized colleagues to delineate the steps of their clinical decision making, creating a list of questions to guide and assess learners.

The development of this guide is a departure from current practice, as it is broadening educational pedagogy by defying traditional approaches to critical thinking through a structured process vetted by experienced practitioners.

Significance

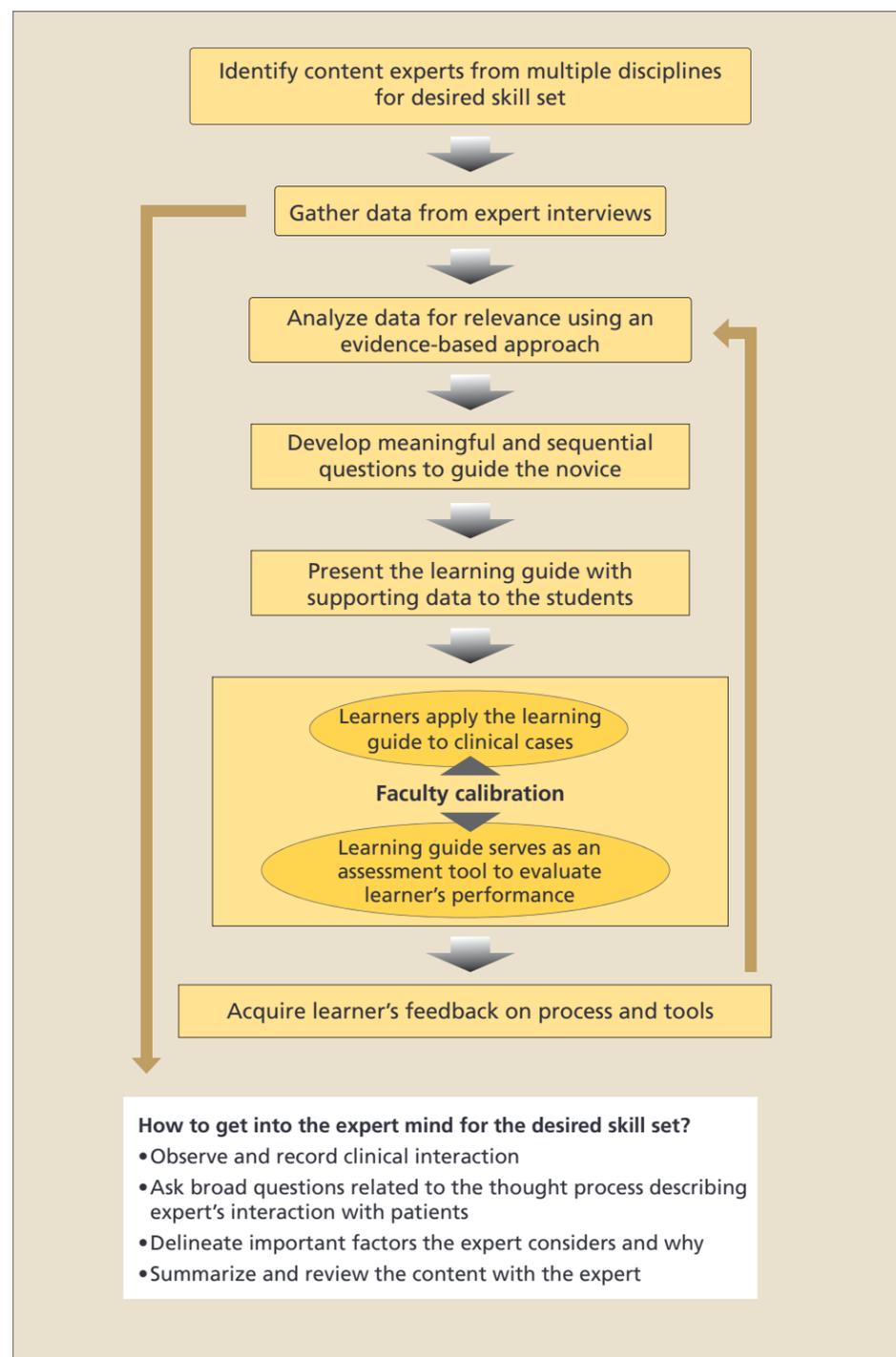
A convincing argument on the impact of dental education

It is vital our graduates from the health professions are able to critically think in clinical settings. To achieve this outcome, educational programs are challenged to develop learning and assessment tools that empower learners to progress their thought processes.

Collaboration and Resources

A collective effort of knowledge and time

Development of these tools involves institutional collaboration and dedication of time to interview, analyze, and create meaningful guides for novice thinkers.



Implementation

A sustainable plan for continuous integration into the dental curriculum

The implementation of this concept through the dental curriculum has been championed by administration and key faculty. As the concept and interest evolves, the application of the tools are expanding throughout the curriculum. At this stage, the tools are intermittently utilized in each of the four years and introduced into graduate courses. The next step is to vertically integrate this process into the curriculum in a systematic way, enabling learners to apply the expert's thought process to patient care.

Geriatric Risk Assessment

Science based information for the risk for rapid oral health deterioration (ROHD) | Thought process / learning guide for the risk for rapid oral health deterioration (ROHD) | Scale for performance assessment

1. ROHD risk factors (based on evidence)

1. General health conditions
Cognitive deficit
Alzheimer, other dementias
Functional deficits
Stroke, osteoarthritis, Parkinson, etc.
Sensory loss
Speech, sight, hearing, taste
Medication
Oral and systemic side effects, drug interaction
Manageable chronic diseases
Hypertension, diabetes, osteoporosis, etc.
Degree of dependent autonomy
Institutionalization, home care, dependence on caregivers, etc.
Terminal diseases/palliative care
Life expectancy

2. Social support
Institutional support
Family/social support
Financial issues
Insurance, Medicaid, social security, etc.
Expectations

3. Oral conditions
Oral hygiene
Periodontal condition
Number of teeth/restorations
Prosthetic status
Fixed, removable, implants
Oral lesions
Inflammation, oral cancer
Stop seeing the dentist

4. Assessment of the risk for ROHD
Is the patient treatable?
What treatment may contribute to increase the risk for ROHD?
Dentist ability and/or commitment

Technology Decision-Making Assessment

Learning Guide/Performance Assessment Instrument/Student Work-Score Sheet

Identified Technology:	Performance Assessment	Student Work-Score Sheet	
		Technology Currently Used	Selected New Technology
LEARNING GUIDE		Max Score	Student Score
Health Benefit	A G	15	
Evidence:			
a. PICO	A	20	
b. Quality	A		
c. Depth	A		
Technology Characteristics:			
a. Stage of Development	A		
b. Longevity	A	25	
c. Usability	A		
d. Acceptance	A		
e. Safety, Risks	A		
f. Quality	A		
g. Initial disruption	A		
Training:			
a. Duration	A	10	
b. Difficulty	A		
c. Clarity	A		
Financial considerations:			
a. Cost/benefit	A	20	
b. Service contract	A		
Company characteristics:			
a. Reliability	A	10	
b. Service contract	A		
Process:			
a. Alternatives	A		
b. Biases	A		
c. Self-assessment	A		

Assessment: This exercise is Pass/Fail.

Interprofessional Practice Assessment

STEPS	Thought Guide/Learning Assessment	SCALE
Collection 1	Practitioner decides on type of information to be collected.	A G
Data 2	General Patient Information	A G
	Chief Complaint Provided	A
	Health History (Patient Diagnosis, Imaging, Physical and Laboratory Results)	A
	Social History Provided	A
	Primary Care Provider	A G
	• Conditions that cause life threatening or affect health	A
	• Differential diagnosis, most likely diagnosis	A
	• Specialist referrals for treatment/counseling/therapy	A
	Pharmacy	A G
	• What patient problems are drug related	A
	• Drug therapy modified to optimize treatment (Treatment duplications, interactions, wrong drug, side effects, wrong dose)	A
	• Monitoring parameters to be implemented for drug prescribed	A
	Nutrition (DENTIST)	A G
	• Patient capacity to subscribe to treatment recommendations	A
	• Translate/translate plans of the primary care provider (Pharmacist/Dentist to maximize the chance of the separate plans working)	A
	Dentistry	A G
	• Dental conditions/risk factors affecting (potentially affecting) general health	A
	• Preventive measures for oral health based on overall health	A
	Nutrition	A G
	• Nutritional factors contributing to disease/condition	A
	• Nutritional risk for further disease and why they are risks	A
	• Barriers to nutrition and resolving nutrition issues	A
	Physical Therapy	A G
	• Long term outcomes for physical therapy programs	A
	• Current exercise treatment regimen prescribed to improve functional limitation/prevent loss of function	A
	Social Worker/Counselor/Behavioral Health Specialist	A G
	• What are barriers/solutions to follow through based on the home situation (money, transportation, organization, who can assist the patient, etc)	A
	• Who is able to consent for the patient	A
	Family Caregiver	A G
	• Who are the people responsible for the patient's activities of daily living on a day to day basis	A
	• Is the caregiver willing to participate in the process	A
Communication 3	Communication Plan	A G
	• Is the plan precise, timely and effective with other health providers	A
	• Is the provider able to communicate treatment recommendations/prevention with the parent/caregivers	A G
Self Assess 4	Self-Assess Skill Levels	A G
	• Biases and alternatives to treatment are identified by provider	A G
Risk 5	Patient Risk Level	A G
	• Risk factors and risk level(s) contributing to patient health risk	A
	• Progression for this patient in one and five years with no care	A
	• Patient's risk level for (further) loss of health	A

A = Applied the step (objective)
G = Grasped the principles as applied to the case (subjective).

Measurement of Outcomes of Innovation

A quantification of impact and outcomes

The impact and outcomes of the process to create collaborative learning and assessment tools is measured by:

- Number of tools developed and implemented;
- Feedback from learners;
- Feedback from faculty;
- Increased collaborative networks formed;
- Continuing evolution and integration and mapping of the tools throughout the curriculum.