Healthcare Education Journal Themes 2015-16: A Snapshot
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Resources: The tables on the pages below contain themes from the following healthcare education related journals recently:
- Journal of Nursing Education (JNE)
- Medical Teacher (MT)
- BMC Medical Education (BMCME)
- Advances in Health Sciences Education (AHSE)
- Academic Medicine (AM) [full review not conducted]

The following resource was also used as part of this project:
- Bradshaw, Martha J., and Arlene J. Lowenstein, eds. 2014. *Innovative teaching strategies in nursing and related health professions* *(ITS)*. 6th ed. Burlington, MA: Jones and Bartlett Learning.

Elements: The themes from these resources have been grouped according to the following Course Development Elements. These have been identified as being some of the essential elements that one needs to consider as they engage in their work, specifically in course development.
- *Contextual considerations*
  - These include considerations of such contextual factors as culture, complex systems of which one is a part, teaching/learning styles, etc.
- *Mission-centered*
  - These include considerations related to justice, ethics, values, systemic change, holism, preferences for under-resourced and marginalized, addressing specific issues in the community, etc.
- *Theories & Models*
  - These include theories and models that one uses to guide their work in more general ways
- *Goals & Objectives, Competencies Needed*
  - These include the aims that one can work towards in their area(s)
- *Activities, Organization, Resources*
  - These include the specific activities that one can use in their work, how one organizes what they do and how they do it, and the resources that one can utilize, etc. In short, this includes the concrete actions that one can use towards the goals and objectives that one is pursuing.
- *Assessments*
  - These include the kinds of data and evaluative measures that can be utilized to help one gauge progress in relation to the aims that one is pursuing.

Tiers: Given these different elements, there are at least three primary tiers that can be addressed in healthcare education. The tables on the following pages categorize articles according to these tiers for the elements above.
- *Tier I – Students*: competencies, knowledge, skills, etc. that students might need for their professional and personal lives

- *Tier II – Instructors, Classes, Programs*: educational theories, practices, dispositions, etc. that healthcare instructors, classes, and/or programs might use to support students in their growth and development in Tier I elements.
- *Tier III – TLCs, Programs*: educational theories, skills, practices, content, dispositions, etc. that Teaching & Learning Centers (TLCs) and programs or departments might use to help instructors, courses, and/or programs/dept.'s to grow and develop in their Tier II elements.

Summary Table of Themes: The following table compiles the findings from the more lengthy tables on the pages that follow below. It is intended to provide a quicker reference and overview of the findings of this snapshot literature review.

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
Contextual Considerations	-Multicultural competencies -Learn about and impact complex health systems -Meeting the needs of families -Learning to contextualize healthcare	**Student Considerations**: -Considering students' goal orientations -Student learning styles -Consideration of students' physical abilities -Cultural and diversity among students -Considering the age/generation of the students in the class -Considering gender differences -Considering institution and student perceptions -Identification of peer influencers; -Positive images and the participants' current amount of contact with under-served populations -Addressing specific needs of students -Understanding how professionalism is conceptualized by the clinicians, students and patients -Surveying students to understand barriers to completing research projects -Considering views of different disciplines and demographics -Student perceptions of service-learning projects -Student concerns for service-learning projects -Understanding student stress in high stakes testing -Considering the contextual impact on Clinical reasoning -Understanding how contextual, personal, and interactional factors impact clinical ed **Instructor Considerations**: -Instructor ability to take on different roles with students -Consideration of instructor self-efficacy -Consideration of instructor's teaching and learning styles	-Consideration of instructor self-efficacy -Consideration of instructor's teaching and learning styles -Consideration of instructor's culture -Consideration of instructor's age/generation -Addressing instructors job satisfaction and motivation -Determine mastery versus performance orientations of instructors -Cost considerations

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Consideration of instructor's culture -Consideration of instructor's age/generation	
Theories & Models	-Mental models of and working with complex systems -Patient-centered care	**Learning Theories**: -Constructivism -Social learning theory; Group learning theories; Sociocultural theory; Social dominance theory -Generational theories -Badrul's e-learning framework -Self-authorship theory; Self-determination Theory (SDT) -Situated cognition theories -Fink's taxonomy of significant learning experiences -Understanding neurobiological processes of empathy -Considering the effects of cynicism and biases -Christensen's theory of disruptive innovation -Basic psychological needs theory [autonomy, competence, and relatedness] -Cognitive psychology; Cognitive load theory -Systems thinking and theories -Resilience theories and strategies -Clinical reasoning framework -Use of professional identity and socio-cultural frameworks -Visual or cognitive aspects of expertise -Bloom's Taxonomy -Peer assisted learning -Workplace learning; Place-based learning theories -Experienced Based Learning (ExBL) model -Theory of deliberate practice -Ericsson's theory of expertise development -Affects of being selected for a program on student motivation **Teaching Strategies**: -Concept-based teaching -Game-based learning; Use of a game show format; -Use of educational technologies to support teaching & learning; Blended learning	**Theories**: -Bourdieu's theoretical model [field (social structures), capital (resources) and habitus (dispositions)] -Self-determination Theory (SDT) -Affects of being selected for a program on student motivation **Program Strategies**: -Developing student-centered curricula -Leadership development programs -Integrating the social, economic, and cultural determinants of health into the curriculum -Shared curriculum model -California Collaborative Model for Nursing Education (CCMNE) -Consensus building -Gaming as a student-centered and active learning strategy **Program Development Strategies**: -Identifying barriers to curriculum implementation -Avoiding curriculum drift -Integrated analysis of learning objectives -Kern's six step approach for curriculum development -Use of vertically integrated (VI) curricula -Curriculum mapping & development

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Inquiry-based strategies -Problem-based learning -Community-based pedagogies and experiences -Team-based learning (TBL) -Collaborative learning strategies -Evidence-based teaching theories and strategies -Innovation & creativity strategies -Narrative, drama, and arts-based pedagogies -Simulation learning strategies -International Inter-professional Education and teamwork strategies -Prairie View Entertains Excellent Thoughts (PEET) Strategy -The capability approach -Kim's critical reflective inquiry model -Active learning strategies [specifically: reflection, peer learning, interdisciplinary teams, organizational partnerships, and curricular reform] -Disruptive use of technology -Mindfulness-based approaches -Reflective Practice Storytelling Guide -PICOT-D (Population, Intervention, Comparison, Outcome, Time, Digital Data) Method -Competency-based education -Use of expert generated schemas -Part-Task skill acquisition strategies -Building community -Reflective learning strategies -Use of humor -Use of evidence-based teaching -Cognitive apprenticeship models -Use of flexible training and competency-based medical education -Use of Dedicated education units (DEUs) -Developing student-centered curricula **Course Development Theories/Strategies**: -Use of forward/backward design strategies	

Elements	*Tier I – Students*	*Tier II –Instructors & Classes*	*Tier III – TLCs & Programs/Dept.'s*
		-Use of instructional design principles -Use of contribution analysis to link education to patient outcomes -Alignment of course elements (objectives, assessments, etc.) -Identifying barriers to evidence-based practice -Seizing emergent learning opportunities, coming up against challenging conditions, and creating learning momentum -Integrated analysis of learning objectives -Kern's six step approach for curriculum development	
Mission-Centered	-Personal & Professional Values -Ethics -Anti-bias healthcare -Empathy -Emotional competencies and intelligence -Addressing sexual violence -Social change -Advocacy skills -Innovation -Leadership skills -Civic Engagement -Working with vulnerable populations -Having a positive self-concept -Physical activity & health -Higher Quality of Life -Integrative approaches to healthcare	-Empathy towards students -Supporting under-represented groups of students -Addressing incivility -Supporting under-resourced communities -Holistic teaching & learning -Increasing intrinsic motivation of students -Ability for faculty to deal with uncertainty in research projects	-Academic support, mentoring, and integration and inclusivity -SUSTAIN (Scholarships for Underrepresented Students in an Accelerated Initial Nursing) program
Goals & Objectives, Competencies Needed	-Ability to work under pressure -Stress management -Resilience -Choosing a specialty	-Creating courses that support student achievement of the objectives -Deep learning -Near vs. far information transfer -Integrating theory and practice	-Continual program and course improvement -Working to improve the competencies of healthcare instructors

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
	-Learning to attend to own continuing professional development -Accuracy of observations -Causal and Clinical reasoning; Prescribing skills; Critical Thinking/Reflection -Learning to think like a healthcare professional -Socialization into the field; Professionalism; Learning the art of clinical practice -Research skills and readiness -Teamwork skills; Inter-professional collaboration/ education -Non-technical skills -Presentation & communication skills -Patient safety; Minimizing abuse -Possessing skills, dispositions, etc. when working with specific populations (e.g., marginalized, under-resourced, ethnic, generational, etc.) -Following organizational policies and best practices (such as receiving regular vaccinations)	-Helping students to become self-regulated, self-efficacy, lifelong learners -Teaching professionalism -Social media considerations and professionalism -Teaching search strategies -National Patient Safety Goals (NPSGs) -World Federation for Medical Education (WFME) accreditation standards for basic medical education -Learning to implement courses with limited resources -Helping students to transition to healthcare fields -Creating a psychologically safe environment -Clarifying policies/practices for working with patients	- Working to help faculty grow as academic leaders -Development of faculty research skills -Accreditation-Guideline compliance -Helping students to transition to healthcare fields -Clarifying policies/practices for working with patients -Clinical faculty working more closely with clinical staff -Helping clinical instructors learning to be effective educators
Activities, Organization, Resources	-Specific healthcare skills and content: EKG interpretation, auscultation, objective structured clinical examination (OSCE), etc.	**Activities**: -Social class dinner activity -Use of reflections; Reflective journaling; Use of intuition in reflective practice; Reflective writing activities	**Activities**: -Development of study abroad programs -Encouraging instructor participation in a medical education Journal Clubs (MEJCs)

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
	-Use of Big Data -Evidence-based practice -Written communication -Teaching health literacy -Implementing skills with limited resources -Use of systems-based practice (SBP)	-Implementing projects or conducting research; Serving on research teams; Supporting publications of students; Participatory action research projects; -Organizational improvement projects and training -Clinical simulation; Simulation exercises; Use of large-scale complex health care simulations; Use of In-situ simulations; Use of virtual patients; Students role playing as patients; Use of experienced students as teachers in simulations -Clinical placements; Use of clinical exercises and experiences; Clinicals in under-represented communities; Use of daily reports on patients in clinicals to foster critical thinking; Modeling empathy in clinicals; Preceptorship, faculty-student practice clinics -Concept and content mapping activities; Use of mind map activities -Self-care and stress management skills training -Use of biofeedback and mindfulness meditation -Single vs. mixed practice activities -Community-based experiences; Community-based participatory research (CBPR) projects -Peer teaching; Peer coaching/mentoring; Use of experienced students as teachers in simulations; Student led orientations -Attending practical classes, active learning strategies -Use of supervisor support -Organizational improvement projects and training; Completing Quality Improvement projects; Physician Quality Improvement Initiatives (PQII) -Systematic viewing activities -Use of unfolding case studies to assess clinical decision-making abilities -Incorporation of photovoice—a qualitative research method -Use of small group activities; Use of faculty-facilitated, peer small group virtual classrooms -Use of a regular Analytical Support Clinic -TeamSTEPPS®-based scenarios	-Establishing learning outcomes for specific parts of the curriculum -Use of Cognitive task analysis techniques to identify competencies -Conducting internal Quality Improvement projects -Use of contribution analysis to link education to patient outcomes -Use of faculty development programs -Use of transformative learning experiences -Formal preparation for teaching, guidance navigating the academic culture, and a structured mentoring program -Support instructor participation in practice-based clinical research networks -Continuing professional development (CPD); Intensive training days -High school to college bridge programs -Nurse educators serving as counselors to students -Orienting students to the program -Developing doctoral & integrated programs -Preparing clinical instructors -Student led orientations -Use of simulations to prepare clinical instructors -Completing international medical electives (IMEs) -Humanities courses -Establishing programs in under-represented regions -Use of hands-on short courses for specific skills/areas in under-represented areas **Resources**: -Use of safety curriculum

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Case study analysis; Case-based reasoning -Use of a student-led healthcare professional conference -Mentoring from near-peers, basic scientists with clinical background, and senior clinicians -6 thinking hat exercise -Use of debates; Discussion activities -Teaching evidence-based practices in clinicals and practice settings -Teaching/using proofreading skills -Skills lab -Book groups -Pre-class activities -Academic League projects -Gaming activities -Direct instruction, lecture; Covering concepts -Sharing cross-cultural experiences -Critical reflection activities -Immersion & service-learning experiences; Study abroad; overseas service-learning placements; Cross border experiences -Creativity projects; Use of photo-elicitation projects -Role playing activities -Visual narrative illustrations (VNI) **Resources**: -Case-based computer programs -Use of remote supervision -Use of Wikis -Use of imaging resources -Use of checklists to help guide critical thinking -Incorporation of photovoice—a qualitative research method -Use of TV medical drama video clips; Use of multimedia; Use of videos; Use of online lecture capturing system (OLCS) -The FACTS Mnemonic for research skills -Use of IRB	-Use of Differentiated Essential Competencies (DECs) -Network General Work Activity questionnaire (O*NET-GWA) -Work Style questionnaire (O*NET-WS) -Steps to creating a manuscripts -Use of documentaries to support faculty research skills -Addressing Staffing issues for programs -Support with developing clinical simulations -Recruiting new nurses to serve in a volunteer capacity in simulations **Organization**: -Sequencing learning experiences

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Use of elearning resources, apps, and ed tech; Near-patient e-learning tools; Use of mobile app's -Use of ISBARR framework (Identify, Situation, Background, Assessment, Recommendation, and Repeat) -Culturally Competent Nursing Modules (CCNMs) developed by the U.S. Office of Minority Health -Use of e-communication -Synchronous platforms -Use of social media -WebQuest online activity -Use of skilled facilitators -Use of virtual patients -Use of theater students as patients -Use of Second Life -Use of high-fidelity human simulation (HFHS) -Use of experienced students as teachers in simulations -Development Work Research (DWR) for organizational change -Use of AMEE's Entrustable Professional Activities (EPAs) **Organization**: -Use of unfolding case studies to assess clinical decision-making abilities	
Assessments	-Patient communication; Learning from patients -Patient satisfaction with care -World Health Organization Quality of Life (WHOQOL-BREF) survey -Sieloff-King Assessment of Group Empowerment Within Organizations (SKAGEO) -Policy Evaluation Activity -Integrative Patient Care (IPC) measure	-Oncology Patients' Perceptions of the Quality of Nursing Care Scale-Short Form -Work-place assessments -Objective Structured Assessment of Technical Skills (OSATS) -Use of clinical competence assessments; Faculty and student perceptions of clinical simulations -Journaling; Reflective writing; Clinical Reflections -Positively framing feedback to students -Portfolios -High stakes testing; Test questions; Use of student generated questions; Use of long menu questions; Progress testing; Open-ended guided questions	-Evaluation of technology-enhanced learning (TEL) -Incivility in Nursing Education (INE) Survey -Network General Work Activity questionnaire (O*NET-GWA) -Work Style questionnaire (O*NET-WS) -Use of psychometric assessments to assess students overall readiness for healthcare -Use of Student Curriculum Review Team (SCRT) and acquiring student feedback about the program -Use of contribution analysis to link education to patient outcomes

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Student perceptions of their own preparedness -Assessment of Medical Education Environment by Teachers (AMEET) -Patient feedback; Simulated patient feedback -PBL-based Assessments -Concept mapping to evaluate knowledge structures -TeamMonitor self-assessment tool -Van der Vleuten's conceptual framework of longitudinal evaluation -Conceptions of Learning and Teaching (COLT) Questionnaire -Implicit Association Test -Use of the Jefferson Scale of Empathy (JSE) -Davis's Interpersonal Reactivity Index (IRI) -Sieloff-King Assessment of Group Empowerment Within Organizations (SKAGEO) -Attitude Toward Poverty Scale -Nurse Self-Concept Questionnaire (NSCQ) -General Perceived Self Esteem Scale -Integrative Patient Care (IPC) measure -World Health Organization Quality of Life (WHOQOL-BREF) survey -Use of Readiness Assurance Tests for exams -Nature and quality of team communication -Competitive State Anxiety Inventory-2 (CSAI-2) survey; State-Trait Anxiety Inventory (State Anxiety Scale) -Perceived Stress Scale -Knowledge surveys -Use of face-to-face interviews with students to assess deep learning; Use of self-explanations -Self-Directed Learning Readiness Scale for Nursing Education (SDLRSNE) -Nursing Competence Self-Efficacy Scale (NCSES) -Assessment of clinical reasoning (ASCLIRE) -California Critical Thinking Disposition Inventory (CCTDI); Holistic Critical Thinking Scoring Rubric -Addressing lapses in professionalism	-Use of faculty review committees -Survey faculty for advice to give to new instructors -Student feedback on faculty behavior -Authentic Leadership Questionnaire (ALQ) -Use of program evaluations to assess impact -Comparing entering and exiting student performance -Evaluations of virtual patient designs -Feedback from students, precepts, faculty in clinicals -Surveying own and other programs -Host site feedback -Student perceptions of programs; Use of alumni & student feedback -Assessing student readiness for healthcare ed programs -Improving response rates for students' program feedback -GPA review -Situational judgement tests (SJTs) -Use of supervisor and co-workers feedback -Preparedness for Hospital Practice (PHPQ) survey -Multiple-Mini Interviews (MMIs) -Use of theory-based evaluations for program assessments -Use of post employment data -Review of previous years' qualitative and quantitative student data -Survey of stakeholders (e.g., policy makers, experts, educators, health care providers, patients, students and parents) -Accreditation standards -Evaluating teaching resources: fiscal, physical, and learning resources

Elements	Tier I – Students	Tier II –Instructors & Classes	Tier III – TLCs & Programs/Dept.'s
		-Use of Concordance of Judgment Learning Tool (CJLT) -Surveying students to understand barriers to completing research projects -Jefferson Scale of Attitudes toward Physician–Nurse Collaboration (JSAPNC) -Attitudes towards health care teams scale (ATHCTS) -Inter-professional education perception scale (IEPS); Readiness for Inter-professional Learning Survey (RIPLS) -Questionnaire for Psychological and Social factors at work (QPSNordic) -Arizona Communication Interview Rating Scale (ACIR) -Genomic Nursing Concept Inventory (GNCI) -Use of unfolding case studies to assess clinical decision-making abilities -Use of rubrics; Use of assessment rubrics for self-assessment -Peer assessments -Evidence-Based Practice Knowledge Assessment in Nursing (EKAN) -Dundee Ready Environment Measure (DREEM); Manchester Clinical Placement Index (MCPI) -Development Work Research (DWR) for organizational change -Feedback from students, precepts, faculty and the host site in clinicals; Clinical educator feedback to students -Use of mini-clinical evaluation exercise (mini-CEX) -Use of random case analysis to direct observation (ARCADO) formative assessments -Use of clinical/critical pathways for student evaluations	

Complete Tables - Tiers I & II: The Teir I column list the competencies, knowledge, skills, etc. that students might need for their professional and personal lives. If there are educational theories, skills, content, practices, dispositions, etc. that instructors, classes, and/or programs might use to help students grow/develop in these, they are listed in the Tier II column.

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
Contextual Considerations	-Multicultural competencies (Zaidi et al., AHSE, 2016, 21:2; Meydanlioglu et al., AHSE, 2015, 20:5; Blanchet Garneau, JNE, 2016, 55:3; Govere et al., JNE, 2016, 55:3; Bahreman & Swoboda, JNE, 2016, 55:2)	-Sharing cross-cultural experiences (Zaidi et al., AHSE, 2016, 21:2; Hannigan et al., JNE, 2015, 54:12) -Critical reflection activities (Blanchet Garneau, JNE, 2016, 55:3) -Culturally Competent Nursing Modules (CCNMs) developed by the U.S. Office of Minority Health (Govere et al., JNE, 2016, 55:3) -Simulations (Bahreman & Swoboda, JNE, 2016, 55:2; Bobianski et al., JNE, 2016, 55:1) -Service-Learning (DeBonis, JNE, 2016, 55:1) -Study abroad, overseas service-learning placements (Gilliland et al., JNE, 2016, 55:1; Murray, JNE, 2015, 54:9S; Vosit-Stellar, ITS, Ch. 29)
	-Learn about and impact complex health systems (Hamrin et al., JNE, 2016, 55:4; Chen et al., MT, 2016, 38:1)	-Completing Quality Improvement projects (Hamrin et al., JNE, 2016, 55:4)
	-Meeting the needs of families (Eggenberger et al., JNE, 2015, 54:10)	-Simulation learning strategies (Eggenberger et al., JNE, 2015, 54:10)
	-Learning to contextualize healthcare (Thompson et al., MT, 2016, 38:1)	-Humanities courses (Thompson et al., MT, 2016, 38:1)
Theories & Models	-Mental models of and working with complex systems (Darabi et al., AHSE, 2016, 20:5; Goldberg & Dallwig, JNE, 2015, 54:9)	-Use of forward and backward design strategies (Darabi et al., AHSE, 2015, 20:5) -Service-learning (DeBonis, JNE, 2016, 55:1)
	-Patient centered care (Hoffman et al., MT, 2015, 37:7; Campbell, MT, 2015, 37:7)	-Patient feedback (Hoffman et al., MT, 2015, 37:7) -Reflective writing (Shapiro et al., BMCME, 2016, 16:93) -Creativity projects (Shapiro et al., BMCME, 2016, 16:93)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
Mission-Centered	-Personal & Professional Values (Moyo et al., AHSE, 2016, 21:2) -Ethics (Kinsella et al., AHSE, 2016, 21:2; Kinsella et al., AHSE, 2015, 20:3; Morin, JNE, 2015, 54:12)	-Arts approaches (Kinsella et al., AHSE, 2016, 21:2) -Social class dinner activity (Leslie, JNE, 2016, 55:4) -Case-based computer programs (Park & Park, JNE, 2015, 54:11)
	-Anti-bias healthcare (Byrne & Tanesini, AHSE, 2015, 20:5; Bellack, JNE, 2015, 54:9S)	-Implicit Association Test (Byrne & Tanesini, AHSE, 2015, 20:5)
	-Empathy (Stansfield et al., AHSE, 2016, 21:1; Fossen & Stoeckel, JNE, 2016, 55:4; Quince et al., BMCME, 2016, 16:92) -Emotional competencies (Kaspar & Hartig, AHSE, 2016, 21:1)	-Understanding neurobiological processes of empathy (Preusche & Lamm, AHSE, 2016, 21:2) -Community-based experiences (Gilliland, JNE, 2015, 54:6) -Use of the Jefferson Scale of Empathy (JSE) (Park et al., MT, 2015, 37:10; Hojat et al., MT, 2015, 37:8; Roff, MT, 2015, 37:8; Quince et al., BMCME, 2016, 16:92) -Use of reflections (Wald, MT, 2015, 37:7) -Modeling empathy in clinicals (Lovell, MT, 2015, 37:6) -Davis's Interpersonal Reactivity Index (IRI) (Quince et al., BMCME, 2016, 16:92) -Considering gender differences (Quince et al., BMCME, 2016, 16:92) -Considering the effects of cynicism and biases (Batley et al., BMCME, 2016, 16:36)
	-Addressing sexual violence (LoGiudice & Douglas, JNE, 2016, 55:4)	
	-Social change (Read et al., JNE, 2016, 55:3) -Advocacy skills (Peltzer et al., JNE, 2016, 55:3) -Innovation (Joseph et al., JNE, 2016, 55:2) -Leadership skills (Barnes, JNE, 2016, 55:1; Morrow, JNE, 2015, 54:7) -Civic Engagement (DeBonis, JNE, 2016, 55:1)	-Leadership development programs (Read et al., JNE, 2016, 55:3) -Implementing projects or conducting research (Peltzer et al., JNE, 2016, 55:3) -Christensen's theory of disruptive innovation (Joseph et al., JNE, 2016, 55:2)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Service-learning projects and trips (Barnes, JNE, 2016, 55:1; DeBonis, JNE, 2016, 55:1; Curtin et al., JNE, 2015, 54:9S) -Sieloff-King Assessment of Group Empowerment Within Organizations (SKAGEO) (Friend, JNE, 2015, 54:12) -Policy Evaluation Activity (Fitzwater & Tong, JNE, 2015, 54:12) -Kim's critical reflective inquiry model (Curtin et al., JNE, 2015, 54:9S) -Active learning strategies [specifically: reflection, peer learning, interdisciplinary teams, organizational partnerships, and curricular reform] (Morrow, JNE, 2015, 54:7) -Use of Dedicated education units (DEUs) (Galuska, JNE, 2015, 54:7) -Use of systems-based practice (SBP) (Chen et al., MT, 2016, 38:1) -Considering institution and student perceptions (Stringfellow et al., MT, 2015, 37:8) -Identification of peer influencers (Michalec et al., MT, 2015, 37:7) -Use of the capability approach (Sandars & Hart, MT, 2015, 37:6) -Clinicals (van der Wal et al., BMCME, 2015, 15:195) -Organizational improvement projects and training (Oline-Hole et al., BMCME, 2016, 16:71) -Disruptive use of technology (Matthews-DeNatale, ITS, Ch. 21)
	-Working with vulnerable populations (Chippendale, JNE, 2015, 54:9S; Johnson et al., JNE, 2015, 54:9S; Walsh & Hendrickson, JNE, 2015, 54:6)	-Positive images and the participants' current amount of contact with these populations (Chippendale, JNE, 2015, 54:9S)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Simulation exercises (Johnson et al., JNE, 2015, 54:9S) -Immersion & service-learning experiences (Ritten et al., JNE, 2015, 54:7; Chuang et al., BMCME, 2015, 15:232) -Attitude Toward Poverty Scale (Ritten et al., JNE, 2015, 54:7) -Possessing skills, dispositions, etc. when working with specific populations (Konkin & Suddards, MT, 2015, 37:11) -Use of remote supervision (Wearne et al., MT, 2015, 37:7) -Patient centered care approaches (Campbell, MT, 2015, 37:7) -Completing international medical electives (IMEs) (Law & Walters, BMCME, 2015, 15:202)
	-Having a positive self-concept (Ford, JNE, 2015, 54:9S)	-Nurse Self-Concept Questionnaire (NSCQ) (Ford, JNE, 2015, 54:9S) -General Perceived Self Esteem Scale (Hallam et al., BMCME, 2016, 16:80)
	-Emotional Intelligence (Lana et al., JNE, 2015, 54:8)	
	-Physical activity (Al-Drees et al., MT, 2016, 38:S1)	
	-Higher Quality of Life (Abrar Shareef et al., BMCME, 2015, 15:193)	-World Health Organization Quality of Life (WHOQOL-BREF) survey (Abrar Shareef et al., BMCME, 2015, 15:193)
	-Integrative approaches to healthcare (Hojat et al., MT, 2015, 37:8)	-Integrative Patient Care (IPC) measure (Hojat et al., MT, 2015, 37:8) -Integrating the social, economic, and cultural determinants of health into the curriculum (Martinez et al., MT, 2015, 37:7)
Goals & Objectives, Competencies Needed	-Ability to work under pressure (Roberts et al., AHSE, 2016, 21:2) -Stress management (Phang et al., AHSE, 2015, 20:5; Bartlett et al., JNE, 2016, 55:2; Abu-Ghazaleh et al., BMCME, 2016, 16:90) -Resilience (Reyes et al., JNE, 2015, 54:8)	-Mindfulness-based approaches (Phang et al., AHSE, 2015, 20:5) -Resilience theories and strategies (Delaney et al., AHSE, 2015, 20:5)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Self-care and stress management skills training (Bartlett et al., JNE, 2016, 55:2) -Competitive State Anxiety Inventory-2 (CSAI-2) survey (Kostiuk, JNE, 2015, 54:10) -Use of biofeedback and mindfulness meditation (Ratanasiripong et al., JNE, 2015, 54:9) -State-Trait Anxiety Inventory (State Anxiety Scale) (Ratanasiripong et al., JNE, 2015, 54:9) -Perceived Stress Scale (Ratanasiripong et al., JNE, 2015, 54:9)
	-Deep learning (Albanese & Case, AHSE, 2016, 21:2) -Near vs. far transfer (Kulasegaram et al., AHSE, 2015, 20:4) -Integrating theory and practice (Harvey, JNE, 2015, 54:11; Peteet, MT, 2015, 37:9)	-Progressive testing (Albanese & Case, AHSE, 2016, 21:2) -Single vs. mixed practice (Kulasegaram et al., AHSE, 2015, 20:4) -Content mapping activities (Hendrix et al., JNE, 2015, 54:11; Passmore, ITS, Ch. 25) -Open-ended guided questions (Harvey, JNE, 2015, 54:11) -Knowledge surveys (Chepulis & Mearns, JNE, 2015, 54:9S) -Blended learning approaches (Ye & Smith, JNE, 2015, 54:9) -Simulation approaches (Ye & Smith, JNE, 2015, 54:9; Kerr, JNE, 2015, 54:8; Makransky et al., BMCME, 2016, 16:98) -Community-based experiences (Gilliland, JNE, 2015, 54:6) -Use of Wikis (Zitzelsberger et al., JNE, 2015, 54:6) -Use of imaging resources (Caswell et al., MT, 2015, 37:12) -Peer teaching (Manyama et al., BMCME, 2016, 16:95)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Attending practical classes, active learning strategies (Gonsalvez et al., BMCME, 2015, 15:231) -Use of face-to-face interviews with students to assess deep learning (Aronsson et al., BMCME, 2015, 15:235)
	-Choosing a specialty (Lepièce et al., AHSE, 2016, 21:1; Gąsiorowski et al., AHSE, 2015, 20:3; Querido et al., MT, 2016, 38:1; Liu et al., MT, 2015, 37:12)	-Social dominance theory (Lepièce et al., AHSE, 2016, 21:1) -Use of community-based education (Amalba et al., BMCME, 2016, 16:79)
	-Self-regulated, self-efficacy, lifelong learners (Lucieer et al., AHSE, 2016, 21:1; Sagasser et al., AHSE, 2015, 20:3; Song et al., JNE, 2015, 54:10) -Learning to attend to own continuing professional development (Sánchez-Mendiola et al., BMCME, 2015, 15:222)	-Supervisor support (Sagasser et al., AHSE, 2015, 20:3) -Self-Directed Learning Readiness Scale for Nursing Education (SDLRSNE) (Fujino-Oyama et al., JNE, 2016, 55:2) -Nursing Competence Self-Efficacy Scale (NCSES) (Kennedy et al., JNE, 2015, 54:10) -Use of clinical simulations (Makransky et al., BMCME, 2016, 16:98) -Relationship to goal orientations (Kool et al., BMCME, 2016, 16:100) -Participation in a medical education Journal Club (MEJC) (Sánchez-Mendiola et al., BMCME, 2015, 15:222) -Physician Quality Improvement Initiative (PQII) (Wentlandt et al., BMCME, 2015, 15:230)
	-Accuracy of observations (Kok et al., AHSE, 2016, 21:1)	-Systematic viewing (Kok et al., AHSE, 2016, 21:1)
	-Causal reasoning (Darabi et al., AHSE, 2015, 20:5) -Clinical reasoning (Kunina-Habenicht et al., AHSE, 2015, 20:5; Holmes et al., AHSE, 2015, 20:5; Boyer et al., JNE, 2015, 54:11; Bradshaw, ITS, Ch. 23) -Prescribing skills (McLellan et al., AHSE, 2015, 20:5)	-Assessment of clinical reasoning (ASCLIRE) (Kunina-Habenicht et al., AHSE, 2015, 20:5) -Cognitive psychology, sociocultural theory, and systems thinking (McLellan et al., AHSE, 2015, 20:5)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
	-Critical Thinking/Reflection (Searing & Kooken, JNE, 2016, 55:4; Blanchet Garneau, JNE, 2016, 55:3; Raterink, JNE, 2016, 55:2)	-Virtual patients (Leung et al., AHSE, 2015, 20:4; Posel et al., MT, 2015, 37:9; Huwendiek et al., MT, 2015, 37:8) -Self-explanations (Chamberland et al., AHSE, 2015, 20:4) -Use of checklists (Sibbald et al., AHSE, 2015, 20:4) -California Critical Thinking Disposition Inventory (CCTDI) (Searing & Kooken, JNE, 2016, 55:4) -Reflective journaling (Raterink, JNE, 2016, 55:2; Bussard, JNE, 2015, 54:8) -Use of unfolding case studies to assess clinical decision-making abilities (O'Rourke & Zerwic, JNE, 2016, 55:1) -Incorporation of photovoice—a qualitative research method (Gallagher & Stevens, JNE, 2015, 54:11) -Kim's critical reflective inquiry model (Curtin et al., JNE, 2015, 54:9S) -Concept mapping (Orique & McCarthy, JNE, 2015, 54:8) -Problem-based learning (Orique & McCarthy, JNE, 2015, 54:8) -Holistic Critical Thinking Scoring Rubric (Orique & McCarthy, JNE, 2015, 54:8) -Use of intuition in reflective practice (Mickleborough, MT, 2015, 37:10) -Use of daily reports on patients (Balslev et al., MT, 2015, 37:8) -Use of small groups (Schoenborn et al., BMCME, 2015, 15:215) -Use of clinical exercises and experiences (Schoenborn et al., BMCME, 2015, 15:215; Bradshaw, ITS, Ch. 23)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Clinical reasoning framework (Tucker & Bradshaw, ITS, Ch. 5)
	-Thinking like a healthcare professional (Wheeler et al., JNE, 2016, 55:3) -Socialization into the field (Dever et al., JNE, 2015, 54:6) -Professionalism (Byszewski et al., BMCME, 2015, 15:204; Emerging Issues in Professionalism, MT, 2015, 37:9)	-Reflective Practice Storytelling Guide (Wheeler et al., JNE, 2016, 55:3) -Teaching professionalism (Al-Eraky, MT, 2015, 37:11) -Addressing lapses in professionalism (Rougas et al., MT, 2015, 37:10) -Use of TV medical drama video clips (Shevell et al., MT, 2015, 37:10) -Use of Concordance of Judgment Learning Tool (CJLT) (Foucault et al., MT, 2015, 37:10) -Social media considerations (Khandelwal et al., MT, 2015, 37:6) -Understanding how professionalism is conceptualized by the clinicians, students and patients (Ojuka et al., BMCME, 2016, 16:101)
	-Research skills and readiness (Smith et al., JNE, 2016, 55:3; Kokol et al., JNE, 2015, 54:10; Reising & Morin, JNE, 2015, 54:8; Aponte et al., JNE, 2015, 54:6; Kharraza et al., MT, 2016, 38:S1)	-Serving on research teams (Smith et al., JNE, 2016, 55:3; Aponte et al., JNE, 2015, 54:6) -The FACTS Mnemonic (El Hussein et al., JNE, 2016, 55:1) -PICOT-D (Population, Intervention, Comparison, Outcome, Time, Digital Data) Method (Elias et al., JNE, 2015, 54:10) -Supporting publications (Reising & Morin, JNE, 2015, 54:8) -Use of IRB (Foote et al., JNE, 2015, 54:7) -Surveying students to understand barriers to completing research projects (Kharraza et al., MT, 2016, 38:S1) -Use of a regular Analytical Support Clinic (Andrews et al., MT, 2015, 37:7) -Teaching search strategies (Freundlich, , ITS, Ch. 4)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
	-Teamwork skills (Sweigart et al., JNE, 2016, 55:1; Hannigan et al., JNE, 2015, 54:12) -Inter-professional collaboration/ education (Donovan & McCumber, JNE, 2015, 54:9; Lait, JNE, 2015, 54:8; Oza et al., MT, 2015, 37:10; Salfi & Solomon, ITS, Ch. 17) -Non-technical skills (Gordon et al., MT, 2015, 37:6)	-TeamSTEPPS®-based scenarios (Sweigart et al., JNE, 2016, 55:1) -Case study analysis (Donovan & McCumber, JNE, 2015, 54:9) -Use of Wikis (Zitzelsberger et al., JNE, 2015, 54:6) -Problem-based learning (Wood et al., MT, 2015, 37:8) -Jefferson Scale of Attitudes toward Physician–Nurse Collaboration (JSAPNC) (Hojat et al., MT, 2015, 37:8) -Considering views of different disciplines and demographics (Hallam et al., BMCME, 2016, 16:80) -Attitudes towards health care teams scale (ATHCTS) (Hallam et al., BMCME, 2016, 16:80) -Interprofessional education perception scale (IEPS) (Hallam et al., BMCME, 2016, 16:80) -Use of a student-led healthcare professional conference (Chua et al., BMCME, 2015, 15:233) -Use of professional identity and socio-cultural frameworks (Roberts & Kumar, BMCME, 2015, 15:211) -Use of large-scale complex health care simulations (Jorm et al., BMCME, 2016, 16:83) -Use of In-situ simulations (Zimmermann et al., BMCME, 2015, 15:189) -Questionnaire for Psychological and Social factors at work (QPSNordic) (McGettigan & McKendree, BMCME, 2015, 15:185) -Readiness for Interprofessional Learning Survey/Scale (RIPLS) (McGettigan & McKendree, BMCME, 2015, 15:185; Nørgaard et al., BMCME, 2016, 16:60)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
	-Presentation & communication skills (Fowler & Jones, JNE, 2015, 54:12; Song et al., JNE, 2015, 54:10)	-Arizona Communication Interview Rating Scale (ACIR) (Gude et al., BMCME, 2015, 15:225) -Simulated patient feedback (Gude et al., BMCME, 2015, 15:225)
	-Patient safety (Gary & Bentley, JNE, 2015, 54:6; Roh et al., MT, 2015, 37:10) -Minimizing abuse (Wijma et al., BMCME, 2016, 16:75)	-National Patient Safety Goals (NPSGs) (Gary & Bentley, JNE, 2015, 54:6) -Use of safety curriculum (Karpa et al., BMCME, 2015, 15:234) -Use of drama pedagogies (Wijma et al., BMCME, 2016, 16:75) -Inter-professional teamwork (Zimmermann et al., BMCME, 2015, 15:189) -Following policies and best practices such as receiving regular vaccinations (Costantino et al., BMCME, 2016, 16:38)
Activities, Organization, Resources	-Art of practice (Gilkison et al., AHSE, 2016, 21:1)	-Narrative approaches (Gilkison et al., AHSE, 2016, 21:1)
	-Specific healthcare skills and content: EKG interpretation, auscultation, objective structured clinical examination (OSCE), etc.	-Cognitive load theory (Chen et al., AHSE, 2015, 20:4) -Expert generated schemas (Blissett et al., AHSE, 2015, 20:4) -Part-Task skill acquisition (Chan et al., AHSE, 2015, 20:4) -Visual or cognitive aspects of expertise (Jaarsma et al., AHSE, 2015, 20:4) -Covering concepts (Agley et al., JNE, 2016, 55:4) -Mentoring from near-peers, basic scientists with clinical background, and senior clinicians (Zafar et al., MT, 2016, 38:S1) -Implementing with limited resources (Abdelaziz et al., MT, 2016, 38:3) -Continuing professional development (CPD) (Kang et al., MT, 2015, 37:8)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Alignment of course elements (objectives, assessments, etc.) (Taylor et al., MT, 2015, 37:8) -Bloom's Taxonomy (Taylor et al., MT, 2015, 37:8) -Use of elearning resources, apps, and ed tech (Skinner et al., MT, 2015, 37:6; Prakash et al., BMCME, 2016, 16:84; Alqahtani et al., BMCME, 2015, 15:199; Jagt - van Kampen et al., BMCME, 2015, 15:194; Wang et al., BMCME, 2016, 16:81) -Use of assessment rubrics for self-assessment (Schoo et al., BMCME, 2015, 15:228) -Peer assessments (Maas et al., BMCME, 2015, 15:203) -Intensive training days (MacEwen et al., BMCME, 2016, 16:88) -Use of large-scale complex health care simulations (Jorm et al., BMCME, 2016, 16:83) -Use of program evaluations to assess impact (Klimas et al., BMCME, 2015, 15:206) -Comparing entering and exiting student performance (Sulosaari et al., BMCME, 2015, 15:223)
	-Use of Big Data (Barton, JNE, 2016, 55:3) -Evidence-based practice (Leslie, JNE, 2016, 55:3; Thor et al., BMCME, 2016, 16:86; Hoving et al., BMCME, 2016, 16:77; Hecht et al., BMCME, 2015, 15:103)	-6 thinking hat exercise (Leslie, JNE, 2016, 55:3) -Evidence-Based Practice Knowledge Assessment in Nursing (EKAN) (Spurlock & Hagedorn-Wonder, JNE, 2015, 54:11) -Use of debates (Boyd et al., JNE, 2015, 54:10) -Teaching evidence-based practices in clinicals and practice settings (Mookherjee et al., MT, 2015, 37:6; Thor et al., BMCME, 2016, 16:86)

Elements	Tier I – Competencies, knowledge, skills, etc. Students need for their Professions	Tier II – What Instructors, Classes, & Programs can do/use to support Students
		-Identifying barriers to evidence-based practice (Ramírez-Vélez et al., BMCME, 2015, 15:220) -Organizational improvement projects and training (Oline-Hole et al., BMCME, 2016, 16:71)
	-Written communication (Abbott, JNE, 2016, 55:2)	-Proofreading (Abbott, JNE, 2016, 55:2) -Use of ISBARR framework (Identify, Situation, Background, Assessment, Recommendation, and Repeat) (Kostiuk, JNE, 2015, 54:10) -Use of rubrics (Miller-Kuhlmann et al., MT, 2016, 38:1)
	-Teaching health literacy (Toronto & Weatherford, JNE, 2015, 54:12)	
	-Implementing skills with limited resources (Abdelaziz et al., MT, 2016, 38:3)	
Assessments	-Patient communication (Aelbrecht et al., AHSE, 2015, 20:4) -Learning from patients (Bell & Vance, AM, 2016, 91:4) -Patient satisfaction with care (Oskay et al., JNE, 2015, 54:12)	-Oncology Patients' Perceptions of the Quality of Nursing Care Scale-Short Form (Oskay et al., JNE, 2015, 54:12)

Complete Tables - Tiers II & III: The Tier II column below lists the areas that instructors, classes, and/or programs might utilize to help students in their Tier I growth and development. Many of these overlap with the Tier II column above. If there are educational theories, skills, practices, content, dispositions, etc. that were mentioned in the resources that Teaching & Learning Centers (TLCs) and programs might use to help instructors grow and develop in their Tier II elements, then they are listed in the Tier III column.

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
Contextual Considerations	-Considering the contextual impact on Clinical reasoning (McBee et al., AHSE, 2015, 20:5)	-Situated cognition (McBee et al., AHSE, 2015, 20:5)
	-Instructor ability to take on different roles with students (Stoddard & Borges, MT, 2016, 38:3)	
	-Considering students' goal orientations (Kool et al., BMCME, 2016, 16:100)	-Mastery versus performance orientations of instructors (Kool et al., BMCME, 2016, 16:100) -Consideration of self-efficacy (Kool et al., BMCME, 2016, 16:100)
	-Student learning styles (Bradshaw, ITS, Ch. 1)	
	-Consideration of students' physical abilities (Alnassar et al., BMCME, 2016, 16:97)	
	-Cultural and diversity among students (Lowenstein & Christian, ITS, Ch. 2)	-Learning styles among different cultures (Lowenstein & Christian, ITS, Ch. 2) -Generational theories (Pesta, ITS, Ch. 6)
Theories & Models (specifically Teaching & Learning)	-Social learning theory (Moore et al., AHSE, 2016, 21:1)	
	-Use of forward/backward design strategies (Darabi et al., AHSE, 2015, 20:5)	
	-Concept-based teaching (Giddens, JNE, 2016, 55:4; Kiernan & Vallerand, JNE, 2016, 55:4; Orique & McCarthy, JNE, 2015, 54:8)	-Use of mind maps (Booker & Peterson, JNE, 2016, 55:3) -Visual narrative illustration (VNI) (El Hussein et al., JNE, 2016, 55:2) -Genomic Nursing Concept Inventory (GNCI) (Ward et al., JNE, 2016, 55:1)
	-Blended learning (Blissitt, JNE, 2016, 55:4)	
	-Game-based learning (Pitt et al., MT, 2015, 37:11; Jaffe, ITS, Ch. 12)	
	-Use of educational technologies to support teaching & learning (Bellack & Thibault, JNE, 2016, 55:1; Keegan et al., JNE, 2016, 55:1; Park & Park, JNE, 2015, 54:11; Irwin & Coutts, JNE, 2015,	-International Interprofessional Education (Hannigan et al., JNE, 2015, 54:12)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
	54:10; Chen et al., JNE, 2015, 54:7; Zitzelsberger et al., JNE, 2015, 54:6; Peacock & Grande, MT, 2016, 38:2; Vaccani et al., MT, 2016, 38:1; Hortsch, MT, 2015, 37:6; Khandelwal et al., MT, 2015, 37:6; Duke et al., MT, 2015, 37:6; Alqahtani et al., BMCME, 2015, 15:199; Teeley, ITS, Ch. 18)	-Prairie View Entertains Excellent Thoughts (PEET) Strategy (Landson et al., JNE, 2015, 54:10) -Use of educational theories (Sandars et al., MT, 2015, 37:11) -Evaluation of technology-enhanced learning (TEL) (Cook & Ellaway, MT, 2015, 37:10) -Use of multimedia (Teeley, ITS, Ch. 18) -Use of e-communication (Matthews-DeNatale & Lowenstein, ITS, Ch. 19) -Synchronous platforms (Cosper & Jaffe, ITS, Ch. 20) -Use of social media (Matthews-DeNatale, ITS, Ch. 21) -Badrul's e-learning framework (Lowenstein, ITS, Ch. 22; http://badrulkhan.com) -Blended learning strategies & theories (Lowenstein, ITS, Ch. 22)
ITS,	-Inquiry-based strategies (LeDuc et al., JNE, 2015, 54:9S)	-WebQuest online activity (LeDuc et al., JNE, 2015, 54:9S)
	-Problem-based learning (Orique & McCarthy, JNE, 2015, 54:8; Lee & Wimmers, AHSE, 2016, 21:2; Schauber et al., AHSE, 2015, 20:4; Torre et al., MT, 2016, 38:2; Wood et al., MT, 2015, 37:8; Solomon & Coman, ITS, Ch. 10)	-Use of skilled facilitators (McLean & Arrigoni, MT, 2016, 38:3) -Use of virtual patients (Ellaway et al., MT, 2015, 37:10) -PBL-based Assessments (Goodwin & Machin, MT, 2016, 38:2; Lee & Wimmers, AHSE, 2016, 21:2) -Group learning theories (Torre et al., MT, 2016, 38:2) -Use of online lecture capturing system (OLCS) (Kwon et al., MT, 2015, 37:6) -Use of concept mapping to evaluate student knowledge structures (Hung & Lin, BMCME, 2015, 15:212)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
	-Community-based participatory research (CBPR) (Zandee et al., JNE, 2015, 54:7) -Community-based pedagogies (Ellaway et al., MT, 2016, 38:3)	
	-Cross border experiences (Waterval et al., MT, 2016, 38:3) -Study abroad programs (Vosit-Stellar, ITS, Ch. 29)	
	-Team-based learning (TBL) (Emke et al., MT, 2016, 38:3; Gullo et al., MT, 2015, 37:9) -Collaborative learning (Peacock & Grande, MT, 2016, 38:2)	-Use of online tech (Peacock & Grande, MT, 2016, 38:2) -TeamMonitor self-assessment tool (Zimmermann et al., BMCME, 2015, 15:189) -Van der Vleuten's conceptual framework of longitudinal evaluation (Zimmermann et al., BMCME, 2015, 15:189)
	-Evidence-based teaching (Castanelli et al., MT, 2015, 37:12)	
	-Student-centered curricula (Jacobs et al., MT, 2015, 37:8;)	-Conceptions of Learning and Teaching (COLT) Questionnaire (Jacobs et al., MT, 2015, 37:8) -The capability approach (Sandars & Hart, MT, 2015, 37:6) -Self-authorship theory (Sandars & Jackson, MT, 2015, 37:6)
	-General theories of learning and teaching (Bradshaw, ITS, Ch. 1)	
	-Innovation & creativity strategies (Lowenstein, ITS, Ch. 3; Landis, ITS, Ch. 7)	-Collaborative pedagogies (Landis, ITS, Ch. 7)
	-Role playing, narrative pedagogies (Lowenstein & Harris, ITS, Ch. 13)	
Mission-Centered	-Job satisfaction and motivation (Engbers et al., AHSE, 2015, 20:4)	-Basic psychological needs theory [autonomy, competence, and relatedness] (Engbers et al., AHSE, 2015, 20:4)
	-Empathy towards students (Mikkonen et al., AHSE, 2015, 20:3)	
	-Supporting under-represented groups of students (Murray, JNE, 2015, 54:12; Milone-Nuzzo, JNE, 2015, 54:10; Murray, JNE, 2015, 54:9S; Stroup & Kuk, JNE, 2015, 54:9S; Cowan et al., JNE, 2015, 54:9S; Aponte et al., JNE, 2015, 54:6)	-Addressing specific needs of these students (Murray, JNE, 2015, 54:12) -Academic support, mentoring, and integration and inclusivity (Murray, JNE, 2015, 54:9S)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
		-SUSTAIN (Scholarships for Underrepresented Students in an Accelerated Initial Nursing) program (Cowan et al., JNE, 2015, 54:9S) -Problem-based learning (Amoako-Sakyi & Amonoo-Kuofi, BMCME, 2015, 15:221)
	-Addressing incivility (Clark et al., JNE, 2015, 54:6)	-Incivility in Nursing Education (INE) Survey (Clark et al., JNE, 2015, 54:6)
	-Supporting under-resourced communities (Aaraas et al., MT, 2015, 37:12)	-Establishing programs in the region (Aaraas et al., MT, 2015, 37:12) -Service-learning projects (Martins et al., MT, 2015, 37:11) -Use of elearning resources (Skinner et al., MT, 2015, 37:6) -Clinicals in communities of interest (Van Schalkwyk et al., MT, 2015, 37:6) -Use of hands-on short courses for specific skills/areas (Chirwa et al., BMCME, 2015, 15:209)
	-Holistic teaching & learning (Teeley, ITS, Ch. 18)	-Fink's taxonomy of significant learning experiences (Teeley, ITS, Ch. 18)
	-Increasing intrinsic motivation of students (Makransky et al., BMCME, 2016, 16:98)	-Use of clinical simulations (Makransky et al., BMCME, 2016, 16:98)
Goals & Objectives, Competencies Needed	-Competency-based education (ten Cate, AHSE, 2015, 20:3; García de Leonardo et al., BMCME, 2016, 16:99; Grilo-Diogo et al., BMCME, 2015, 15:226; Zhao et al., BMCME, 2015, 15:207)	-Differentiated Essential Competencies (DECs) (McEwen, JNE, 2015, 54:11) -World Federation for Medical Education (WFME) accreditation standards for basic medical education (Tackett et al., MT, 2016, 38:3) -Use of portfolio assessments (Arntfield et al., MT, 2016, 38:2) -Network General Work Activity questionnaire (O*NET-GWA) (Zhao et al., BMCME, 2015, 15:207) -Work Style questionnaire (O*NET-WS) (Zhao et al., BMCME, 2015, 15:207)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
		-Use of Cognitive task analysis techniques to identify competencies (Zupanc et al., BMCME, 2015, 15:216)
	-Continual program improvement (Gorski et al., JNE, 2015, 54:9; Brady, JNE, 2015, 54:7; Chen et al., JNE, 2015, 54:7; Abdulrahmana & Tawfik, MT, 2016, 38:S1)	-Use of psychometric assessments (Coombes et al., MT, 2016, 38:3) -Use of Student Curriculum Review Team (SCRT) and acquiring student feedback about the program (Hsih et al., MT, 2015, 37:11; Iblher et al., BMCME, 2015, 15:176) -Conducting internal Quality Improvement projects (Barzansky et al., MT, 2015, 37:11) -Use of contribution analysis to link education to patient outcomes (Moreau & Eady, MT, 2015, 37:11) -Use of faculty development programs (Irby et al., MT, 2015, 37:8) -Use of faculty review committees (Lypson et al., BMCME, 2016, 16:65)
	-Competence as a healthcare instructor (Cooley & Gagne, JNE, 2016, 55:2; Grassley & Lambe, JNE, 2015, 54:7)	-Transformative learning experiences (Cooley & Gagne, JNE, 2016, 55:2) -Formal preparation for teaching, guidance navigating the academic culture, and a structured mentoring program (Grassley & Lambe, JNE, 2015, 54:7) -Use of instructional design principles (Krouse, JNE, 2015, 54:6) -Survey faculty for advice to give to new instructors (Boellaard et al., JNE, 2015, 54:6) -Use of faculty development programs (Irby et al., MT, 2015, 37:8; Kim et al., BMCME, 2015, 15:224) -Student feedback on faculty behavior (Lange et al., AHSE, 2015, 20:5)
	-Academic leadership (Al-Moamary et al., MT, 2016, 38:S1)	-Authentic Leadership Questionnaire (ALQ) (Al-Moamary et al., MT, 2016, 38:S1)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
	-Development of faculty research skills (Ahmed et al., MT, 2016, 38:2)	-Steps to creating a manuscripts (Cook, MT, 2016, 38:1) -Participation in practice-based clinical research networks (Schwartz et al., MT, 2016, 38:1) -Dealing with uncertainty in research projects (Helmich et al., MT, 2015, 37:11) -Use of documentaries (Toye et al., BMCME, 2015, 15:214)
	-Establishing learning outcomes for specific parts of the curriculum (García de Leonardo et al., BMCME, 2016, 16:99)	
Activities, Organization, Resources	-Clinical simulation (Young et al., AHSE, 2016, 21:1; Paige, JNE, 2016, 55:2; Jeffries, JNE, 2015, 54:11; Bailey, ITS, Ch. 14; Leighton & Johnson-Russell, ITS, Ch. 16) -Skills lab (Tapler, ITS, Ch. 15)	-Creating a psychologically safe environment (Young et al., AHSE, 2016, 21:1) -Cognitive load theory (Haji et al., AHSE, 2015, 20:5) -Portfolio assessments (Till et al., AHSE, 2015, 20:5) -Use of theater students as patients (Hart & Chilcote, JNE, 2016, 55:3; Rue & Doolen, JNE, 2015, 54:11) -Use of Second Life (Irwin & Coutts, JNE, 2015, 54:10) -Faculty and student perceptions (Landeen et al., JNE, 2015, 54:9; Ahmed et al., MT, 2016, 38:S1) -Use of high-fidelity human simulation (HFHS) (Lee & Oh, JNE, 2015, 54:9; Bailey, ITS, Ch. 14; Leighton & Johnson-Russell, ITS, Ch. 16) -Use of experienced students as teachers in simulations (Dumas et al., JNE, 2015, 54:9) -Use of a game show format (Garnett et al., JNE, 2015, 54:9) -Developing clinical simulations (Dagnone et al., MT, 2016, 38:1) -Evaluations of virtual patient designs (Huwendiek et al., MT, 2015, 37:8)

Elements	Tier II – What Instructors, Classes, & Programs can do/use to support Students	Tier III – What TLCs & Programs/Dept.'s can do, use, teach, etc. to support Instructors & Classes for each Element
		-Near-patient e-learning tools (Selzer et al., MT, 2015, 37:6)
	-Peer coaching/mentoring (Moore et al., AHSE, 2016, 21:1; Wong et al., JNE, 2016, 55:3; Lorio et al., JNE, 2016, 55:2) -Peer assisted learning (Bennett et al., AHSE, 2015, 20:3; Hudson et al., MT, 2016, 38:2)	-Social learning theory (Moore et al., AHSE, 2016, 21:1; Bennett et al., AHSE, 2015, 20:3) -Experienced Based Learning (ExBL) model (Burgess et al., BMCME, 2016, 16:85)
	-Workplace learning (Teunissen, AHSE, 2015, 20:4; Braniff et al., MT, 2016, 38:1) -Clinical placements (Piquette et al., AHSE, 2015, 20:4; Park et al., MT, 2015, 37:7; Bradshaw, ITS, Ch. 23) -Community-based experiences (Gilliland, JNE, 2015, 54:6)	-Place-based learning theories (Teunissen, AHSE, 2015, 20:4) -Seizing emergent learning opportunities, coming up against challenging conditions, and creating learning momentum (Piquette et al., AHSE, 2015, 20:4) -Dundee Ready Environment Measure (DREEM) (Kelly et al., AHSE, 2015, 20:4) -Manchester Clinical Placement Index (MCPI) (Kelly et al., AHSE, 2015, 20:4) -Development Work Research (DWR) for organizational change (Reid et al., AHSE, 2015, 20:3) -Feedback from students, precepts, faculty (Fluit et al., AHSE, 2015, 20:3; Hooven, JNE, 2015, 54:8; Billay et al., JNE, 2015, 54:8; van de Ridder et al., MT, 2015, 37:8; Gauthier et al., MT, 2015, 37:6; Johnson et al., BMCME, 2016, 16:96) -Clarifying policies/practices (Teodorczuk et al., AHSE, 2015, 20:3) -Social-cultural learning theories (Liljedahl et al., AHSE, 2015, 20:3) -Clinical faculty working more closely with clinical staff (Dahlke & Hannesson, JNE, 2016, 55:2) -Clinical educator feedback to students (Motley & Dolansky, JNE, 2015, 54:7)

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		-Use of mini-clinical evaluation exercise (mini-CEX) instruments (Bok et al., MT, 2016, 38:1; Rogausch et al., BMCME, 2015, 15:208) -Cognitive apprenticeship models (Chen et al., MT, 2015, 37:12) -Sequencing learning experiences (Chen et al., MT, 2015, 37:12) -Use of evidence-based teaching (Castanelli et al., MT, 2015, 37:12) -Use of AMEE's Entrustable Professional Activities (EPAs) (Cate et al., MT, 2015, 37:11) -Integrated analysis of learning objectives (Balzer et al., MT, 2015, 37:6) -Theory of deliberate practice (Gauthier et al., MT, 2015, 37:6) -Ericsson's theory of expertise development (Gauthier et al., MT, 2015, 37:6) -Use of faculty-facilitated, peer small group virtual classrooms (Duke et al., MT, 2015, 37:6) -Participatory action research projects (von Pressentin et al., BMCME, 2016, 16:82) -Understanding how contextual, personal, and interactional factors impact clinical ed (Kumar & Greenhill, BMCME, 2016, 16:68) -Use of flexible training and competency based medical education (van Rossum et al., BMCME, 2016, 16:104) -Use of random case analysis to direct observation (ARCADO) formative assessments (Ingham et al., BMCME, 2015, 15:218) -Clinical instructors learning to be effective educators (Allen & Prater, ITS, Ch. 24)

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		-Preceptorship, faculty-student practice clinics (French & Greenspan, ITS, Ch. 26; Mackey et al. , ITS, Ch. 27) -Use of clinical/critical pathways (Bradshaw, ITS, Ch. 32)
	-Addressing Staffing issues for programs (Berro & Knoesel, JNE, 2016, 55:1)	-Recruiting new nurses to serve in a volunteer capacity in simulations (Berro & Knoesel, JNE, 2016, 55:1)
	-Students role playing as patients (Sittikariyakul et al., AHSE, 2015, 20:3; Fossen & Stoeckel, JNE, 2016, 55:4; Beaird, JNE, 2015, 54:7)	-Use of videos (Schlegel et al., MT, 2015, 37:8)
	-High school to college bridge programs (Pritchard et al., JNE, 2016, 55:4)	
	-Nurse educators serving as counselors to students (Lane & Corcoran, JNE, 2016, 55:4)	
	-Curriculum mapping & development (Close et al., JNE, 2015, 54:12; Gagnon & Cator, JNE, 2015, 54:7; Herr et al., JNE, 2015, 54:6; Mahmouda et al., MT, 2016, 38:S1; Nasser et al., BMCME, 2016, 16:59) -Accreditation-Guideline compliance (Jagt - van Kampen et al., BMCME, 2015, 15:194)	-Shared curriculum model (Close et al., JNE, 2015, 54:12) -Surveying own and other programs (Eychmüller et al., BMCME, 2015, 15:213) -Identifying barriers to implementation (Holden et al., BMCME, 2015, 15:210) -California Collaborative Model for Nursing Education (CCMNE) (Close & Orlowski, JNE, 2015, 54:12) -Avoiding curriculum drift (Woods, JNE, 2015, 54:11) -Consensus building (Herr et al., JNE, 2015, 54:6) -Student feedback (Nicola et al., MT, 2015, 37:7) -Integrated analysis of learning objectives (Balzer et al., MT, 2015, 37:6) -Kern's six step approach for curriculum development (Zimmermann et al., BMCME, 2015, 15:189)

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		-Use of vertically integrated (VI) curricula (Wijnen-Meijer et al., BMCME, 2015, 15:229)
	-Case based reasoning (Park & Park, JNE, 2015, 54:11)	
	-Orienting students to the program (Burkhardt et al., JNE, 2015, 54:12)	-Student led orientations (Knowlton & Jones, JNE, 2015, 54:8)
	-Building community (Myers et al., JNE, 2015, 54:11)	
	-Doctoral & integrated programs (O'Lynn, JNE, 2015, 54:9; Hulme et al., JNE, 2015, 54:9)	
	-Preparing clinical instructors (Hunt et al., JNE, 2015, 54:8)	-Use of simulations (Hunt et al., JNE, 2015, 54:8)
	-Reflective learning (Morgan et al., MT, 2015, 37:10; Wald, MT, 2015, 37:7)	
	-Book groups (Kan et al., MT, 2015, 37:9)	
	-Service-learning projects (Voss, JNE, 2016, 55:3; Barnes, JNE, 2016, 55:1; Martins et al., MT, 2015, 37:11; Maltby, ITS, Ch. 28)	-Host site feedback (Voss, JNE, 2016, 55:3) -Use of photo-elicitation projects (Kronk et al., JNE, 2015, 54:9S) -Student perceptions (Knecht & Fischer, JNE, 2015, 54:7) -Student concerns (Chuang et al., BMCME, 2015, 15:232)
	-Pre-class activities (Keegan et al., JNE, 2016, 55:1)	-Use of mobile app's (Keegan et al., JNE, 2016, 55:1)
	-Cost considerations (Walsh, MT, 2015, 37:7; Brown et al., MT, 2015, 37:7)	
	-Academic League projects (Valente Ferreira et al., BMCME, 2015, 15:236)	
	-Gaming activities (Kaylor, JNE, 2016, 55:2; Garnett et al., JNE, 2015, 54:9)	-Gaming as a student-centered and active learning strategy (Kaylor, JNE, 2016, 55:2)
	-Use of humor (D'Amico & Jaffe, ITS, Ch. 8)	
	-Direct instruction, lecture (Woodring & Woodring, ITS, Ch. 9)	
	-Debate, discussions (Bradshaw & Lowenstein, ITS, Ch. 11)	
	-Concept mapping exercises (Passmore, ITS, Ch. 25)	-Constructivism (Passmore, ITS, Ch. 25)
	-Helping students to transition to healthcare fields (Balmer et al., AHSE, 2015, 20:4)	-Bourdieu's theoretical model [field (social structures), capital (resources) and habitus (dispositions)] (Balmer et al., AHSE, 2015, 20:4)

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Assessments	-Work-place assessments (Massie & Ali, AHSE, 2016, 21:2)	
	-Clinical Reflections (Slootweg et al., AHSE, 2016, 21:1)	-Team communication (Slootweg et al., AHSE, 2016, 21:1)
	-Objective Structured Assessment of Technical Skills (OSATS) (Hatala et al., AHSE, 2015, 20:5)	
	-Use of clinical competence assessments (McGill et al., BMCME, 2015, 15:237)	
	-Journaling (Ruitenberg & Towle, AHSE, 2015, 20:4) -Reflective writing (Arntfield et al., MT, 2016, 38:2; Sukhato et al., BMCME, 2016, 16:102)	
	-Positively framing feedback to students (van de Ridder et al., AHSE, 2015, 20:3)	
	-Portfolios (Arntfield et al., MT, 2016, 38:2; Furmedge et al., BMCME, 2016, 16:66)	
	-High stakes testing (Tagher & Robinson, JNE, 2016, 55:3) -Progress testing (Ravesloot et al., AHSE, 2015, 20:5) -Test questions (Cerutti et al., BMCME, 2016 16:55)	-Understanding student stress in high stakes testing (Tagher & Robinson, JNE, 2016, 55:3) -Use of Readiness Assurance Tests (Bartlett Ellis et al., JNE, 2016, 55:1) -Use of student generated questions (Gooi & Sommerfeld, MT, 2015, 37:10) -Use of long menu questions (Cerutti et al., BMCME, 2016 16:55)
	-Student perceptions of programs (Peterson et al., JNE, 2015, 54:10; Nasser et al., BMCME, 2016, 16:59)	-Improving response rates (Phillips et al., MT, 2016, 38:3)
	-Assessing student readiness for healthcare ed programs (Salem et al., MT, 2016, 38:S1) -Student perceptions of their own preparedness (Surmon et al., BMCME, 2016, 16:89; Grilo-Diogo et al., BMCME, 2015, 15:226)	-GPA review (Salem et al., MT, 2016, 38:S1) -Situational judgement tests (SJTs) (Patterson et al., MT, 2016, 38:1; Patterson et al., BMCME, 2016, 16:87) -Use of alumni & student feedback (Kassim et al., BMCME, 2016, 16:56; Muthaura et al., BMCME, 2015, 15:178) -Use of supervisor feedback (Muthaura & Khamis, BMCME, 2015, 15:178)

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		-Preparedness for Hospital Practice (PHPQ) survey (Kassim et al., BMCME, 2016, 16:56) -Multiple-Mini Interviews (MMIs) (Patterson et al., BMCME, 2016, 16:87) -Self-determination Theory (SDT) (Wouters et al., BMCME, 2016, 16:37) -Affects of being selected on student motivation (Wouters et al., BMCME, 2016, 16:37)
	-Program assessments (Sethi et al., MT, 2016, 38:2; Van Der Vleuten et al., MT, 2015, 37:7; Wilson, ITS, Ch. 30)	-Surveying alumni (Sethi et al., MT, 2016, 38:2) -Use of theory-based evaluations (Dauphinee, MT, 2015, 37:11) -Survey co-workers and supervisors of recent graduates (Kellett et al., MT, 2015, 37:10) -Use of post employment data (Tekian & Boulet, BMCME, 2015, 15:200) -Review of previous years' qualitative and quantitative student data (Nie et al., BMCME, 2015, 15:217) -Survey of stakeholders (e.g., policy makers, experts, educators, health care providers, patients, students and parents) (Chanakit et al., BMCME, 2015, 15:205) -Accreditation standards (Wilson, ITS, Ch. 30) -Evaluating teaching resources: fiscal, physical, and learning resources (Freundlich, ITS, Ch. 31)
	-Assessment of Medical Education Environment by Teachers (AMEET) (Shehnaz et al., MT, 2015, 37:7)	