Competency-Focused Approach to Clinical Experiences (C-FACE); Purpose, Design, and Implementation

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INACSL CONFERENCE, 2016
INACSL is an accredited ANCC provider.
• Conflict of Interest
  – Funding was received by the Texas Higher Education Coordinating Board; some slides presented at the International Meeting on Simulation in Healthcare (Anderson, Cipher, Lindley, & Mancini, 2016)
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  – Daisha Cipher
  – Soohyun Kim, MSN, RN
  – Erica Hinojosa, BS
  – Mindi Anderson – current grant funding Laerdal Foundation for Acute Medicine; previous consultant National League for Nursing/Laerdal -scenario development; Advisory Board-VSim® for Nursing/Pediatric
  – Julia Greenawalt (INACSL Conference Administrator & Nurse Planner) reports no conflict of interest
  – Leann Horsley (INACSL Lead Nurse Planner) reports no conflict of interest

• Successful Completion
  – Attend 90% of session
  – Complete online evaluation
Upon completion of this presentation, participants will be able to:

1. Name at least one purpose of the C-FACE study.
2. Describe the design of the C-FACE study.
3. Discuss at least two considerations for implementing clinical competency evaluations utilizing simulations.
• What do YOU want to get from this workshop?
BACKGROUND
• Decreased availability of clinical sites
• Need for clinical faculty
• Need to reconcile expectations of academia and service relative to new graduate competencies
• Lack of standardization of simulation usage
• NLN announced – enough evidence for replacing up to 50% of clinical hours with high-fidelity simulation (NLN Board of Governors, 2015)

• Based on National Council of State Boards of Nursing (NCSBN) study (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014)
• Write on your index card provided -
  – What is competent?
  – What is competence?
  – What is competency?
Language is inexact; Definitions are confusing

- Competent –
- Competence –
- Competency –

Dorothy del Bueno
Background

• No consistent way to measure clinical competency (Watson, Stimpson, Topping, & Porock, 2002) — “Know it when we see it”

• Accrediting agencies for nursing programs typically use general terms for competencies (Commission on Collegiate Nursing Education, 2013; Texas Board of Nursing, 2011)
  • e.g. “Adequate”; “Appropriate”

• States and programs vary on specific number of hours to be spent in different types of clinical experiences/settings
• The need to create operational definitions of “competency” that reflect what employers need

• What does competence entail? (Decker, Sportsman, Puetz, & Billings, 2008)
  – Knowledge
  – Skills
  – Application of these – performance (Cooper et al., 2012; Motola, Devine, Chung, Sullivan, & Issenberg, 2013; Watson et al., 2002)
Other Issues

• Variability among assessors (Watson et al., 2002) (reliability/validity)
  – Instrumentation (Motola et al., 2013)
  – What is passing? (Motola et al., 2013)
  – What is incompetence? (Watson et al., 2002)
One systematic review on clinical competence assessment (nursing) –
  - Improvement over the last decade
  - Still needed:
    - Better, psychometrically sound instruments
    - Resolution of defining competence (Yanhua & Watson, 2011)
• No agreement on:
  – Defining competence
  – Set of clinical competences with operational definitions - assess readiness to practice
  – Type, quality, quality of experiences needed to produce competent Registered Nurses (RNs)
OPPORTUNITIES – DEFINING CLINICAL COMPETENCIES USING SIMULATION
Simulation - General

- **Use increased** (Motola, Devine, Chung, Sullivan & Issenberg, 2013)
- **Users can practice** (Motola et al., 2013)
- **Evaluation of competency can be done** (Decker et al., 2008)
  - Some requirements
- **Can provide opportunities/exposure that are inadequate/non-existent** (Motola et al., 2013)
• Predetermined set of clinical encounters which desired level of competency can be demonstrated

• Many benefits (Decker et al., 2008; Motola et al., 2013)
• How many times does something have to be done to reach mastery/competence?
  – Look at mastery learning/deliberate practice
    • Minimum passing standard
  – Outcomes must be defined

(Motola et al., 2013)
DEFINING CLINICAL COMPETENCIES USING SIMULATION - PURPOSE
• Received funding from Texas Higher Education Coordinating Board (THECB)

• Research designed to increase simulation hours embedded in pre-licensure nursing courses; clearly defining competency
• Academic Partners: 4
• Service Partners: Hospital Council + 6 others
C-FACE Will:

• Produce a model of clinical education - foundation of evidence-based, standardized clinical objectives for clinical courses; specific simulation experiences enriched by a set of intentional exposures to specific clinical experiences in a variety of clinical settings.

• Calculate a dose-response curve by collecting data students submit every clinical day; this will allow us to derive a mean time to achieve high quality student outcomes.
Desired Outcome

• Set of guiding principles - determine optimal number/type of clinical experiences; optimal range of clinical hours
STUDY DESIGN
• **Goal 1**: To determine an effective range of clinical contact hours to prepare a competent graduate

• **Goal 2**: To determine the effective & efficient distribution of these hours and clinical experiences in simulation and traditional “hands on” patient care
Methods

• Multi-site prospective cohort study
• 750 participants
• 339 Control, 411 Intervention
• 403 University students
• 347 Community college students
• 49% White/Caucasian, 19% Hispanic, 15% Black/African-American, 17% Asian/Pacific Islander/other
• Creighton Competency Evaluation Instrument (Todd et al., 2014) – measures competencies of control group, two intervention groups
• Intervention Group A’s competencies – measured after formative simulation
• Group B’s competencies - measured after traditional clinical experiences following formative simulations
Outcomes/Tools

• Demographic data: gender, age, race, ethnicity, and highest degree earned

• Clinical log data: daily patient care hours, numbers of patients seen, and procedures performed
• The Daily Clinical Log assesses:
  – Type of clinical setting
  – Number of patient encounters
  – Number of procedures performed
  – Number of total hours in clinical setting
  – Number of direct patient care hours
Basic Process

• Utilized National League for Nursing Simulation Scenarios
  – Standardized topics and content
• Consensus among the team
  – Formative and summative evaluation criteria/rubric

Implementation
  – Videotaped and independent reviewer for scoring
PROCESS
Activities of the Task Groups

• Five Task Groups in Spring 2015 - identify clinical competencies and standardized simulation experiences. Each task group included subject matter experts in clinical focus from academic and clinical settings.
• Each task group participant reviewed in advance the CCEI tool and possible simulation experiences.
• Meeting facilitator used a Rapid Design Process with group to complete the task group work.
• Task Group Outcomes – Selection of at least one formative and summative scenario for each focus area with CCEI competencies/encounters determined for the summative scenario.
Activities of the Task Groups

- Task Groups clinical focus included the following:
  - Foundations, Med/Surg, and Capstone
  - Psychiatric
  - Obstetrical
  - Pediatrics
  - Critical Care

- Subject Matter Experts included:
  - Academic Representatives
  - Employer Representatives
## Activities of the Task Groups

<table>
<thead>
<tr>
<th>Clinical Focus</th>
<th>Dates</th>
<th>Academic Reps</th>
<th>Clinical Reps</th>
<th>Sim Lab Reps</th>
<th>Total</th>
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<tbody>
<tr>
<td>II. Psychiatric</td>
<td>March 30</td>
<td>5</td>
<td>3</td>
<td></td>
<td>8</td>
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<tr>
<td>III. Obstetrical</td>
<td>April 29</td>
<td>5</td>
<td>4</td>
<td></td>
<td>9</td>
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<tr>
<td>IV. Pediatrics</td>
<td>May 7</td>
<td>4</td>
<td>4</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>V. Critical Care</td>
<td>May 28</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td>17</td>
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<tr>
<td>TOTAL PARTICIPANTS</td>
<td>27</td>
<td>26</td>
<td>4</td>
<td></td>
<td>57</td>
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</tbody>
</table>
Process

• Group Work- Academic and Service Subject Matter Experts (SMEs)

• Use of a facilitator – Critical factor
  – Step 1 – Select simulation scenarios
  – Step 2 – Define specific behaviors
Step One

- Selection of scenarios
  - 1-3 formative standardized simulation experiences to prepare students for actual patient-care experiences
  - 1 summative evaluation scenario

Started with end in mind
Step Two

- Defining clinical competencies using standardized tool
  - Creighton Competency Evaluation Instrument (C-CCEI) (Todd et al., 2014)
  - Four key areas and 22 behavior categories
  - Training for all SME on C-CCEI
Had to Keep in Mind

• Summative evals had to be different than formative
• Outcomes can be skewed if facilitators do different things (for example, use different cues)
• Standardization must occur
• Another challenge is realism, including different equipment

(Willhaus et al., 2014)
CHALLENGES – DEFINING CLINICAL COMPETENCIES USING SIMULATION AND PROCESS OUTCOMES
• Scheduling challenges with coordinating four schools and multiple employer partners

• Polled partners to determine when we could get the best/most representation

• Held 5 sessions ranging in participation of 8-17 subject SMEs in each session

• One session was two days; others were all one day

• Total of 57 participants in 5 sessions

• Method seemed to work out with good number of participants/balanced representation from academia and service
• Distribution of content was different in the different nursing programs (ex. starting IVs)

• Number of weeks of clinical for different focus areas was different in the various nursing programs

• Met as SMEs with facilitator; choose major content areas that crossed programs; tweaked scenarios to match skills taught

• Determined # of formative scenarios plus one summative scenario/content area based on weeks
• Need to reconcile the expectations for new graduates between academic and service representatives

• Met as SMEs with facilitator; discussed expectations
IMPLEMENTATION
• Variability related to the level of understanding of faculty and simulation staff in each program relative to how to run the project
  – Ex. voicing manikin

• Discovered issues of variability; checked on all sites; determined standardized/scripted voicing
Challenges/Solutions

• Ensuring all students prepared on what to fill out at the end of clinical
  – Clinical Logs
• Ensuring students completed Clinical Logs

• Meetings with faculty/students from partner schools to help address questions; emphasized importance of Clinical Logs
• Weekly reminders to students/faculty to complete log immediately after each clinical day
• Monthly log compliance reports to the partners
• Standardizing the summative scenarios
• Staff changes

• Worked with simulation technicians from each school to help with overcoming time, space, and video issues
• Staff Changes
  – With one person’s departure, we enlisted the services of three (3) external consultants to complete reviews
  – With another’s departure, responsibilities were assigned to another faculty member
Other Challenges

- SMEs from wide geographical area
  - If you have SMEs coming from multiple areas, do they have the same resources? Protocols?
- Debriefing (or lack thereof) on summative evaluation
  - Research purposes
RESULTS

PRELIMINARY DATA
Status of clinical logs to date:

• 5,883 total valid log entries since January 2015
• 750 participating students
• 7.8 average log entries per student
# C-FACE Data Collection: Daily Clinical Log

<table>
<thead>
<tr>
<th>Academic Institution</th>
<th>Number of Unique Students</th>
<th>Total Number of Log Entries</th>
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<tbody>
<tr>
<td>#1</td>
<td>279</td>
<td>2,278</td>
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<tr>
<td>#2</td>
<td>80</td>
<td>884</td>
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<td>#3</td>
<td>267</td>
<td>1,728</td>
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<td>#4</td>
<td>124</td>
<td>993</td>
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<tr>
<td>Total</td>
<td>750</td>
<td>5,883</td>
</tr>
</tbody>
</table>
Results

• 14,179 total number of procedures reported performed
• 41,145 total number of direct patient hours reported
• 50,004 total number of indirect patient hours reported
• Ratio of direct patient hours/total hours: 82%
Results

• Over 5,500 days of clinical rotations from 750 students have been logged.

• Over 2,000 clinical competency evaluations using the C-CCEI (Todd et al., 2014) have been performed.
Limitations

- Ensuring all students are prepared for the experiences
- Clinical Logs
- Implementation
- Scheduling challenges with coordinating four schools and multiple employer partners
- Coordinating subcontracts through 3 schools and Hospital Council
- Standardizing the summative scenarios
- Staff changes
Lessons Learned

• Needed to include Simulation Lab staff in the task groups to fully understand capabilities of the simulation labs in academic setting. The lab capabilities could impact the choice of scenarios.
• What hospitals/schools allowed students to do in clinicals also impacted scenario choice.
• Feedback from task group participants was good. They liked the interaction with the academic and clinical educators.
• No standard Psychiatric simulation scenarios available. Task Group developed their own.
Subjective feedback about the implementation of formative and summative standardized scenarios reveal positive experiences from the both faculty and students.
• Please share your experience with defining clinical competencies and standardizing simulation as a learning/assessment tool.

• How can other programs adopt similar strategies to define competencies and standardize simulation as a learning/assessment tool?

References


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