Improving Critical Thinking with Healthcare Makerspace Activities

Nancy Meehan, PhD, RN
Nurses Solve Problems...
NURS 1400
What is a MakerSpace?
Watt Family Innovation Center: MakerSpace
## CT2 Makerspace Rubric

<table>
<thead>
<tr>
<th></th>
<th>Strong (30 pts)</th>
<th>Acceptable (20 pts)</th>
<th>Unacceptable (10 pts)</th>
<th>Weak (4 pts or less)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem</strong></td>
<td>Problem is clearly defined and evidence, questions, etc. are accurately interpreted.</td>
<td>Problem is clearly defined and evidence, questions, etc. are not accurately interpreted.</td>
<td>Problem is unclearly defined and evidence, questions, etc. are misinterpreted.</td>
<td>Problem is not stated or evidence, questions, etc. are interpreted with bias.</td>
</tr>
<tr>
<td><strong>Pros &amp; Cons</strong></td>
<td>Identifies most important arguments for and against the solution chosen.</td>
<td>Identifies relevant arguments for and against the solution chosen.</td>
<td>Fails to identify strong, relevant counter-arguments for the solution chosen.</td>
<td>Fails to identify or hastily dismiss strong, relevant counter-arguments for the solution chosen.</td>
</tr>
<tr>
<td><strong>Points of View</strong></td>
<td>Thoroughly assesses and evaluates major alternative points of view.</td>
<td>Offers analyses and evaluations of obvious alternative points of view.</td>
<td>Superficially evaluates obvious alternative points of view.</td>
<td>Ignores obvious alternative points of view.</td>
</tr>
<tr>
<td><strong>Conclusions</strong></td>
<td>Draws warranted, thoughtful, logically sound conclusions</td>
<td>Draws warranted, logically sound conclusions</td>
<td>Draws unwarranted or unwarranted conclusions</td>
<td>Argues using unsound or irrelevant reasons, and unwarranted claims</td>
</tr>
<tr>
<td><strong>Explanations</strong></td>
<td>Justifies key solutions and results, explains assumptions and reasons</td>
<td>Identifies some solutions and results, explains reasons.</td>
<td>Justifies few solutions and results, seldom explains reasons.</td>
<td>Does not justify solutions and results, nor explains reasons.</td>
</tr>
<tr>
<td><strong>Objectivity</strong></td>
<td>Fair-mindedly follows where evidence and reasons lead.</td>
<td>Shows prejudice when following where evidence and reasons lead.</td>
<td>Regardless of the evidence or reasons, defends views based on self-interest or preconceptions.</td>
<td>Exhibits close-mindedness to reason.</td>
</tr>
<tr>
<td><strong>Digital Media</strong></td>
<td>3 or more different types of Adobe Spark products are used in final presentation.</td>
<td>2 or more different types of Adobe Spark products are used in final presentation.</td>
<td>1 additional type of Adobe Spark products are used in final presentation.</td>
<td>No integration of Adobe Spark products are used in final presentation.</td>
</tr>
<tr>
<td><strong>Effort</strong></td>
<td>Completed work with excellence and exceeded faculty expectations.</td>
<td>Completed work in an above average manner.</td>
<td>Work is complete but lacks initiative and finishing touches.</td>
<td>Work shows minimal effort.</td>
</tr>
<tr>
<td><strong>Participation</strong></td>
<td>All group members participate actively and equally in presentation.</td>
<td>All group members participate, but work is unevenly shared.</td>
<td>Some group members participate very little or not at all.</td>
<td>One or more group members need to be reassigned to another group.</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Presentation is between 3 - 3.5 minutes long.</td>
<td>Presentation is too long or short by 30 seconds or less.</td>
<td>Presentation is too long or too short by more than 30 seconds.</td>
<td>Presentation is too long or too short.</td>
</tr>
</tbody>
</table>

Total Points Awarded: __________

Maximum Strong 100 pts; Acceptable 80 pts; Unacceptable 60 pts; Weak 40 pts.

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*Inspired by The Holistic Critical Thinking Scoring Rubric by Peter & Noreen Facione*
NURS 1400 Makerspace Projects
Clemson Makerday
Brace Yourselves: An Exploration of Wrist Brace Innovation

Group Member Name(s):
Audrey Bowman
Meredith Welsh
Torrey Brown

Number of Objects: 2

Instructor: Dr. Nancy Meehan
Pediatric Tracheostomy Covers

Group Member Name(s):
Emma Canedo
Megan Holder
Nina Kremser

Number of Objects: 5

Instructor: Dr. Meehan
CT Scan Arm Arch

Group Member Name(s): Anna Corontzes

Number of Objects: 1

Instructor: Dr. Meehan

This arm arch assists weak or injured patients in keeping their arms above their heads during CT scans.
Functional Food Tray

Group Member Name(s):
Kate O'Sullivan
Emily Bryant
Emily Wiley

Number of Objects: 1

Instructor: Dr. Meehan
IV Tube Organizer

Group Member Name(s): Taylor Holmes
Lauren Grandchamp
Mikayla Jenkins

Number of Objects: 1

Instructor: Jason Thrift
Wrist Brace with IV Site

Group Member Name(s):
Taylor Kneecce
Haley Mazzell
Savannah Moody

Number of Objects: 1

Instructor: Mrs. Seawright
Custom Cane Handles

Group Member Name(s):
Katelyn Sease
Delaney Humphries
Lydia Martzin

Number of Objects: 1

Instructor: Mrs. Seawright
Oxygen Mask with Pacifier

Group Member Name(s):
Morgan Weaver
Murphy Yoxall
Natalie Snyder

Number of Objects: 1

Instructor: Jason Thrift
Remodeled NICU Pacifier

Group Member Name(s):
Bowen Griffith
Mary Margaret Cain
Elizabeth Ray

Number of Objects: 1

Instructor: Dr. Meehan
Modified Utensil for ALS Patients

Group Member Name(s):
Carly Berrios
Hannah Hildreth
Jamie Birchmore

Number of Objects: 1

Instructor: Dr. Meehan
Child friendly asthma aerochamber

Group Member Name(s):
Bonnie Brantley
Emily Childers
Allie Hibberts

Number of Objects: 3 pieces (middle with handles, 2 caps)

Instructor: Dr. Meehan
Head Shaper for NICU Infants

Group Member Name(s):
Hailey Connor
Mickenzie Hamilton
Mary Grace Lesesne

Number of Objects: 1

Instructor: Dr. Meehan
Concussion Training Tool

Group Member Name(s):
Chloe Kolb
Clare Buck
Kerry Halliburton

Number of Objects: 1

Instructor: Mrs. Lanham
Clemson CT2 Makerspace
Problem of Sudden Infant Death Syndrome and How It Is Handled Today
Not ‘The End’
Only the Beginning