Faculty Extender Program: Implications for Global Clinical Education

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Problem

- Faculty shortage
- Aging faculty and/or faculty relocating
- Technology being developed but not tested in nursing education
Research Purpose

• To explore application of the robot faculty extender program (RFEP) to roles beyond but including the role of the teacher in terms of:
  – Usefulness
  – Acceptability
  – Impact
Method

- Embedded single case design
  - Questionnaires
  - Field notes
  - Robot data
- Setting
- Sample
Setting: Living Laboratory Smart Technology House

The Living Laboratory is located on a 100 acre, Continuum Care Retirement Village, home to 800 Older adults.

Lab Opened Nov. 2009

1 of 5 METI 2010 International Simulation Innovator and Educator of the Year special recognitions at the annual METI conference, Orlando, Florida.
Telehealth Remote Presence Endpoint (RPE)

2007 Nursing Institute launched the first in the world academic telehealth remote presence robot research study with eight programs of nursing faculty and students.

To date:
19 projects have been completed.

Five proposals to other countries.
“Some of the Techy” family members who participate in remote presence robot studies involving students, professional and other families.
Procedure

• Geriatric home care simulation
• Course coordinator “attended” each session via RPE
• Students and clinical faculty completed questionnaires
• Course coordinator kept field notes
Remote Presence Robot Control Station

Robot control station components:

- Camera
- Computer
- Joy Stick
- Wireless Connection
- Human operator
Dr. Vermeersch working with students, clinical instructor, while mentoring graduate student in Living Laboratory setting.

Extending the research of a seasoned faculty member from over 300 miles away from the university.
Tools Used

• **Questionnaires** (7 items, closed and open ended)
  – Student 80% response (n=66)
  – Faculty 100% response (n=9)

• **Field Notes** (4 days, 9 groups)

• **RPE data** (estimated)
  – Total connect time ~32 hrs
  – Lost connectivity time ~ 4 hrs
Questionnaire

• Most students (89%) had *no* prior exposure to robots
  – but most (56%) faculty did

• General response to the robot was mixed for students and faculty.

<table>
<thead>
<tr>
<th>Overall response</th>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Negative</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Mixed/Unsure</td>
<td>20</td>
<td>3</td>
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</tbody>
</table>
Questionnaire

- Most students and faculty felt the robot could be useful as a faculty extender, primarily as
  - Educational source
  - Provide immediate interaction
  - Provide healthcare collaboration
Questionnaire

• Effectiveness could be improved by
  – Eliminating technical difficulties
  – Enhancements to the robot
  – Better student and faculty preparation
Field Note Themes

• Usefulness
  – Work productivity
  – Functionality of the technology

• Acceptability
  – Degree and type of interaction

• Impact
  – On nursing process, learning
  – On use of the technology
Limitations

• Small sample
• Timeframe too short to evaluate impact
• Confounded results by using with simulation
Conclusions

Results of this study support the potential use of the remote presence endpoint (aka robot) as a faculty extender.
Implications

• Potential to access nursing experts around the world in real time
• Potential to extend the “work life” of experienced faculty with disabilities or who move
• Much more research needed – Cost/benefit
Questions

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