AN ACCENT MODIFICATION INTERVENTION FOR NURSING AND ALLIED HEALTH STUDENTS

SIGMA THETA TAU 27TH INTERNATIONAL NURSING RESEARCH CONGRESS
JULY 21-25, 2016
CAPE TOWN AFRICA

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ACKNOWLEDGEMENTS

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ACKNOWLEDGEMENTS

• Texas Woman’s University
  • Dr. Neely, Provost
  • Dr. Jennifer Martin, Sr. Associate Provost
  • Dr. Joshua Adams, Exec Director Pioneer Center of Student Excellence
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- Clinical Nursing
- Education
- Occupational Therapy
- Psychology
- Library Science
- Information Technology
- Statistician
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OBJECTIVES

1) Discuss healthcare communication issues associated with accents.

2) Review study methodology.

3) Assess the study results.

4) Describe opportunities for sustainability of this program.
• Texas Woman’s University is housed in the Texas Medical Center
  ▪ Largest medical center in the world
  ▪ 59 institutions
  ▪ 90+ languages spoken
  ▪ Overcoming communication barriers is a key challenge
NEEDS ASSESSMENT
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- Electronic Patient Records
- Social Media and Mobile Devices
- Translation Services
- Error Reporting
• Accents are problematic when other people cannot understand what is being said.
REGIONAL & FOREIGN ACCENTS

• Nurses & nursing students have been had difficulties communicating with:
  ▪ Patients and family
  ▪ Other members of the health care team

• These communication problems can occur:
  ▪ 1:1
  ▪ Shift report
  ▪ Telephone
PSYCHOLOGICAL FALLOUT

Speakers who have an accent:

- Are asked to repeat themselves frequently.
- Feelings of
  - Being devalued.
  - Perceiving others see them as less intelligent
  - Being inferior.
- May avoid social interaction.
METHODS
STUDY DESIGN

- One group pretest-posttest
- Hypotheses: participants who have taken an accent modification program will report:
  - a) decreased communication apprehension
  - b) improved communication competence
  - c) enhanced self-esteem
  - d) improved spoken language skills.
- Study ran over three semesters (fall 2014, spring & fall, 2015)
STUDY DESIGN

- Post Program Focus groups:
  - What are the lived experiences of students who participate in an accent modification program?
POPULATION

- In semester one and two, student participants were recruited from all colleges and schools in Texas Woman’s University, Houston:
  - Nursing, PT, OT, Dietary, and Health Care Administration

- In semester three, participants were recruited from Texas Woman’s University (students, faculty, and staff) and from Hospitals in the Texas Medical Center
- Convenience sampling
- Self-selection
  - Participants perceived they had an audible regional or foreign accent making it difficult for others to understand
- Minimum sample size needed for significance = 27
  - A priori power analysis significance with a desired level of power set at .80, an $\alpha$-level at .05, and a moderate effect size of .25 ($f$) and .50 ($dz$).
The greatest risk in the project was that students may feel the project conveyed prejudice or bias toward English as Second Language students.

- Steps taken to minimize this risk was to invite all university students to self-select into the research program.
- In addition, students who believed they had a regional accent were also invited.
INTERVENTION

- Accent modification taught by a licensed speech pathologist
- 12 weekly one hour classes
- Classes included
  - Role of Melody
  - Pronunciation of vowels and consonants
  - Pronunciation of words including health care words
  - Class participation
  - Use of IPhone or other device to do self-videotaping of mouth movements.
- Homework encouraged for 10 minutes a day
INSTRUMENTS

- All pre and post data collected via SurveyMonkey.com
- Demographics
  - gender
  - marital status
  - ethnicity
  - race
  - education
  - field of study
  - country of origin
  - age when English first spoken
INSTRUMENTS

- Rosenberg Self-Esteem Scale
  - 10 Likert style items
- Personal Report of Communication Apprehension
  - 24 Likert style items
- Self-Perceived Communication Competence
  - 12 Likert style items
RESULTS
DEMOGRAPHIC STATISTICS

Participants (n=27) completing the program included:

- 18 nursing students
- 3 health care administration students
- 1 staff member
- 5 nurses from the Texas Medical Center (course offered for a fee)
### Demographic Statistics

<table>
<thead>
<tr>
<th>Categorical demographic variable</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>88.9</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>11.1</td>
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<tr>
<td><strong>Marital Status</strong></td>
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<tr>
<td>Married</td>
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<td>70.4</td>
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<tr>
<td>Single/Divorced</td>
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<td>29.6</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<td></td>
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<tr>
<td>Not Hispanic or Latino</td>
<td>23</td>
<td>85.2</td>
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<tr>
<td>Hispanic or Latino</td>
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<td>14.8</td>
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<tr>
<td><strong>Race</strong></td>
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<td></td>
</tr>
<tr>
<td>Asian</td>
<td>14</td>
<td>51.9</td>
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<tr>
<td>Black or African American</td>
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<td>22.2</td>
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<tr>
<td>Other</td>
<td>7</td>
<td>25.9</td>
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</table>
## DEMOGRAPHIC STATISTICS

<table>
<thead>
<tr>
<th>Current Education Level</th>
<th>Count</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Greater Than or Equal to 2 Years of College</td>
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<td>51.9</td>
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<tr>
<td>Bachelor’s Degree</td>
<td>10</td>
<td>37.0</td>
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<tr>
<td>Graduate Degree</td>
<td>3</td>
<td>11.1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Country/Area of Origin</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>13</td>
<td>48.1</td>
</tr>
<tr>
<td>Africa</td>
<td>6</td>
<td>22.2</td>
</tr>
<tr>
<td>North/South America</td>
<td>2</td>
<td>7.4</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>22.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age When English Speaking Began</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a child</td>
<td>3</td>
<td>11.1</td>
</tr>
<tr>
<td>Later on in life</td>
<td>24</td>
<td>88.9</td>
</tr>
</tbody>
</table>
# DEMOGRAPHIC STATISTICS

<table>
<thead>
<tr>
<th>Number of Years in a Country Where English is the Primary Language</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1 Year or Less</td>
<td>5</td>
<td>18.5</td>
</tr>
<tr>
<td>3 Years to 5 Years</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>More Than 5 Years</td>
<td>18</td>
<td>66.7</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>$M$</td>
<td>32.37</td>
</tr>
<tr>
<td>$SD$</td>
<td>7.77</td>
</tr>
<tr>
<td>Min</td>
<td>23</td>
</tr>
</tbody>
</table>
RESULTS

Differences between Pre and Post Intervention Scores

- Self Esteem
- Group Discussion (PRCA)
- Meeting (PRCA)
- Public Speaking (PRCA)
- Overall Communication
- Public (SPCC)
- Meeting (SPCC)
- Group (SPCC)
- Interpersonal (SPCC)
- Stranger
- Acquaintance
- Friend
- Overall SPCC Score

Legend:
- Pre
- Post
SELF-ESTEEM

- Participants had significantly higher self-esteem scores at posttest

- \((M = 33.48, SD = 5.42)\) than at pretest \((M = 31.89, SD = 5.47)\), \(Z = -2.03, p = .043\).
• Significantly higher (better) scores in:
  ▪ competence communicating in **meetings** scores at posttest \((M = 67.46, SD = 24.01)\) than at pretest \((M = 57.84, SD = 27.44)\), \(Z = -2.56, p = .011\).
  ▪ competence communicating in **groups** at posttest \((M = 82.23, SD = 14.72)\) than at pretest \((M = 74.36, SD = 22.86)\), \(Z = -2.15, p = .032\).
COMMUNICATION

- competence communicating with strangers at posttest ($M = 68.27$, $SD = 21.00$) than at pretest ($M = 54.10$, $SD = 31.99$), $Z = -2.68$, $p = .007$. 
competence communicating with *acquaintances* at posttest ($M = 79.08, SD = 17.13$) than at pretest ($M = 69.47, SD = 25.11$), $Z = -2.45, p = .014$.

competence communicating in *interpersonal situations* at posttest ($M = 87.98, SD = 13.66$) than at pretest ($M = 77.16, SD = 19.50$), $Z = -2.76, p = .006$.

overall competence communication scores at posttest ($M = 78.31, SD = 15.11$) than at pretest ($M = 69.59, SD = 20.91$), $Z = -2.80, p = .005$. 
FOCUS GROUP RESULTS

- Surprise finding
  - Students indicated they understood what others were saying better!
RELATED LITERATURE

• Accent modification studies have begun to emerge in the literature:
  ▪ 13 nursing students
    ▪ Improved clarity of communication
  ▪ 82 medical internists and researchers
    ▪ Improved pronunciation, intonation, and fluency of speech
One qualitative study was uncovered which discussed the experience of an accent modification program.

- 14 nurses
  - Six qualitative themes 1) equipped to overcome accent 2) confident that I can be understood, 3) I talk with purpose 4) I want to be engaged 5) My accent is part of me and 6) I am not antisocial.
This study provided new evidence suggesting that accent modification programs may improve self-esteem and self-perceived communication abilities.
Weaknesses of a one group pretest posttest design:

- **History**: Events outside of the intervention or participants may affect the measurement (i.e. making friends)
- **Maturation**: Change within the participants which may affect the measurement (i.e. effect of taking classes over time)
- **Testing**: When the testing itself affects the participants
SUSTAINABILITY

- Private accent modification classes
- Free online iTunes programs
- Fee based Online programs
- University programs – For example
  - University of Missouri
  - San Diego State University
  - Emory University
  - University of Houston
This study was done in the TWU Pioneer Center for Student Excellence. We are currently transitioning the program to this Center.

The course was offered free to students, staff, and faculty.

The course was offered to individuals in the Texas Medical Center for an affordable fee.
IMPLICATIONS FOR RESEARCH

- Randomized control trial studies
  - Pre and post testing of speech patterns and intelligibility
  - Long-term studies on psychological indicators
  - Is there increased understanding of what others are saying?

- Hospital and other health care organization studies on the effect of an accent modification program on the following indicators:
  - Patient satisfaction
  - Patient safety
THANK YOU!

• Dr. Freysteinson: Wfreysteinson@twu.edu

References available upon request