Development of a scanning algorithm

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Graduate speech-language pathology (SLP) students are faced with many stressors as they work towards competency in a variety of specialized clinical skills. The literature shows that graduate students in general have high levels of concern about their academic performance, resulting in high levels of stress and anxiety (Oswalt, 2007). Students working towards degrees in health-related fields are particularly susceptible to increases in stress and anxiety due to the uncertainty and lack of knowledge they feel when entering into clinical situations (Sun, 2016).

One of the challenging skills SLP students must learn is how to conduct a diagnostic interview. Diagnostic interviews tend to be hard to prepare for since one cannot be sure how the client will respond to questions. The research suggests that SLPs, as well as other health care professionals, often struggle with conducting interviews that achieve the best diagnostic outcomes (Ferguson & Armstrong, 2004; Hand, 2006).

This study is part of a larger study examining best practices in training SLP graduate students to conduct effective diagnostic interviews. In order to understand best practices in teaching, it is also important to understand student perspective. The purpose of this study is to examine the anxiety experienced by graduate SLP students in preparing for their first diagnostic interview.

**RESEARCH QUESTION/HYPOTHESIS**

**Research Question:** What factors influence SLP graduate student anxiety during preparation for their first initial diagnostic interview?

**Research Hypothesis:** The experience of situational communication apprehension (anxiety) towards the diagnostic interview will differ in chronological relation to the diagnostic interview event. [H1: No difference in T1, T2, and T3]

**METHODS**

This study involved a parallel mixed methods approach.

**Participants**

- Eleven first-year graduate students enrolled in an accredited masters program with minimal to no diagnostic interview experience.

**Procedures**

- Quantitative data was collected through administration of the Situational Communication Apprehension Measure (SCAM) in an online format. Participants were instructed to complete the measure while thinking about conducting their first diagnostic interview. The SCAM was administered 3 times, once before discussion of the process, once after they had received classroom instruction yet prior to the first interview, and once after they had completed their first diagnostic interview.
- Qualitative data was collected through an open-ended question administrated through an online format and completed prior to student’s first diagnostic interview. Questions related to anxiety, preparedness, and instruction received regarding the diagnostic interview process.

**RESULTS**

A repeated measures ANOVA was conducted to compare the effect of time on anxiety. There was a significant effect for the time the SCAM was taken, Wilks’ Lambda = .194, F (2,4) = 8.289, p = .038. Post hoc contrasts show that the post interview SCAM reports less apprehension than initial or pre-interview SCAM. No difference was detected between the first two, test power is .22.

Table 1: Post Hoc Contrasts: Paired Samples T-Test

<table>
<thead>
<tr>
<th>Pair</th>
<th>SCAM1 - SCAM2</th>
<th>SCAM1 - SCAM3</th>
<th>SCAM2 - SCAM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>14.541</td>
<td>14.541</td>
<td>14.541</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>5.141</td>
<td>5.141</td>
<td>5.141</td>
</tr>
<tr>
<td>Std. Error Mean</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>95% CI Lower</td>
<td>7.748</td>
<td>7.748</td>
<td>7.748</td>
</tr>
<tr>
<td>95% CI Upper</td>
<td>21.334</td>
<td>21.334</td>
<td>21.334</td>
</tr>
<tr>
<td>t</td>
<td>-4.86</td>
<td>-4.86</td>
<td>-4.86</td>
</tr>
<tr>
<td>df</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Sig.</td>
<td>.042</td>
<td>.042</td>
<td>.042</td>
</tr>
</tbody>
</table>

Responses from the questionnaire were examined across participants and codes emerged directly from participant responses. Using Dedoose, researchers identified and organized the pertinent codes through a collaborative process, and identified key themes related to the research question. Three overall themes related to anxiety were identified.

**Themes**

- **Knowledge** “I don’t fully know what to prepare myself for”
- **Experience** “Do not have children of my own to relate to parents”
- **Client Education** “I quickly lose confidence in my knowledge”
- **Self-Perceptions** “I believe my natural pragmatic skills and outgoing personality will help me”
- **Personality** “I am very anxious and very much care about people’s perception of me”
- **Task-Perceptions** “I feel that I prepared for the most part”
- **Expectation** “I don’t know exactly what to expect”

**CONCLUSION AND DISCUSSION**

The hypothesis was supported as anxiety decreased significantly after the diagnostic interview. A slight increase in means was observed right before the interview. However, this was not statistically different from the first time. Nearness to the event likely raised anxiety, but the teaching of skills likely lowered it.

The qualitative comments illuminate the competing tensions that influence anxiety. On one hand, students are anxious because they recognize their deficits in knowledge and experience. On the other hand, feeling prepared and like they know what to expect helps to reduce their anxiety. Particularly important, students identified the theme of self-perception, which does not specifically relate to any new skills, suggesting additional areas to address in teaching.

These aspects indicating the causes of the anxiety are factors which can be addressed in designing effective instruction to prepare students for a diagnostic interview.

**Limitations and Future Research**

The following limitations were noted in the study:

- The sample size was small for quantitative analysis
- Due to the data being collected via written questionnaires, follow-up questions for clarification were not asked

Future research should address the following:

- How do specific teaching strategies influence anxiety over time?
- How can specific teaching strategies help reduce fears and build confidence

**Selected References**


