**Student Mindsets: Exploring the Undergraduate Research Classroom**

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**Background**
- Undergraduates who engage in research experiences early in their programs have positive academic outcomes (Brownell & Swener, 2009; Nagda et al., 1998).
- Undergraduate research experiences improve confidence and understanding in the research process (Kuh, 2009).
- Web-based surveys show that 83% of students perceive increased understanding of how to conduct a research project and an increased confidence in research skills (Russel, Hancock, McCullough, 2007).
- American Speech-Language-Hearing Association (ASHA) emphasizes importance of undergraduate research, applying the following standard for certification in speech-language pathology: "The applicant must have demonstrated knowledge of processes used in research and of the integration of research principles into evidence-based clinical practice."

**Methods**
- In Fall 2013, CSD 235: Undergraduate Research in Communication Sciences & Disorders was introduced as a specific, required course in the CSD comprehensive major.
- Under the instruction of Dr. Abby Hemmerich, 41 students with primarily sophomore standing attended the two credit course to participate in discussions and group research.
- At the outset and finish of the semester, students submitted reflections, answering prompts focused on internalizing and exciting elements of research, goals for the class and future, and the relationship of clinicians and researchers.
- Students also completed a Likert scale mindset survey with elements based on a Personal Beliefs Survey (Flores, 2006) for intelligence, as well as the CSD 235 course outcomes as listed on the syllabus.
- Essays & course evaluations were analyzed using Graneheim and Lundman's (2004) qualitative content analysis.
- Aggregated data from the Personal Beliefs Survey (Flores, 2006) was analyzed quantitatively through descriptive statistics.
- After finish of the semester, students completed an online course evaluation.
- 36 of the 40 students completed the online survey.
- Coding of open-ended responses revealed five major themes, as shown in the diagram.

**General Implications**
- Initial and final student reflections show major themes that indicate student comfort-level and goal setting throughout the semester.
- Preliminary analyses of Pre-, Post- mindset surveys show that more students moved towards a “growth” mindset.
- Future statistical analyses will determine significance of this change.
- Pre-, Post-survey regarding course outcomes show student confidence level increased upon course completion.
- Initial student reflections included common-sense responses, but final reflections moved towards alert-novice level, indicating deeper levels of introspection.
- Course evaluations exposed summative statements about progression in the research process.

**Reflections**
- Initial and final student reflections show major themes that indicate student comfort-level and goal setting throughout the semester.
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**Depth of Reflections**
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**References**
- Flores, D. (2009). The Credit/Non-Credit Course: Growth Mindset and Conceptual Development. *APA*. (Authors names and affiliations are provided within the References section.)

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