Cross-Curricular Learning in Communication Sciences and Disorders: Leaving the Silos Behind

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This project describes student perceptions of learning following the completion of a cross-curricular end-of-semester project in communication sciences and disorders. Results indicated that students increased knowledge in several key areas, particularly in the integration of material from two separate graduate courses.

Keywords: Student perceptions of learning

About GAUISUS

Gauisus is the internal, peer-reviewed scholarship of teaching and learning (SoTL) publication at Illinois State University (ISU). Its purpose is to provide instructors writing about their teaching and learning a local but peer reviewed publication outlet and to offer other instructors and students an accessible publication to read to obtain a sense of, and learn from, some of the scholarly teaching and SoTL projects conducted by their colleagues on our campus. The name, *Gauisus* means glad, gladly, or joyful in Latin, as in the Illinois State motto/logo, "Gladly we learn and teach."

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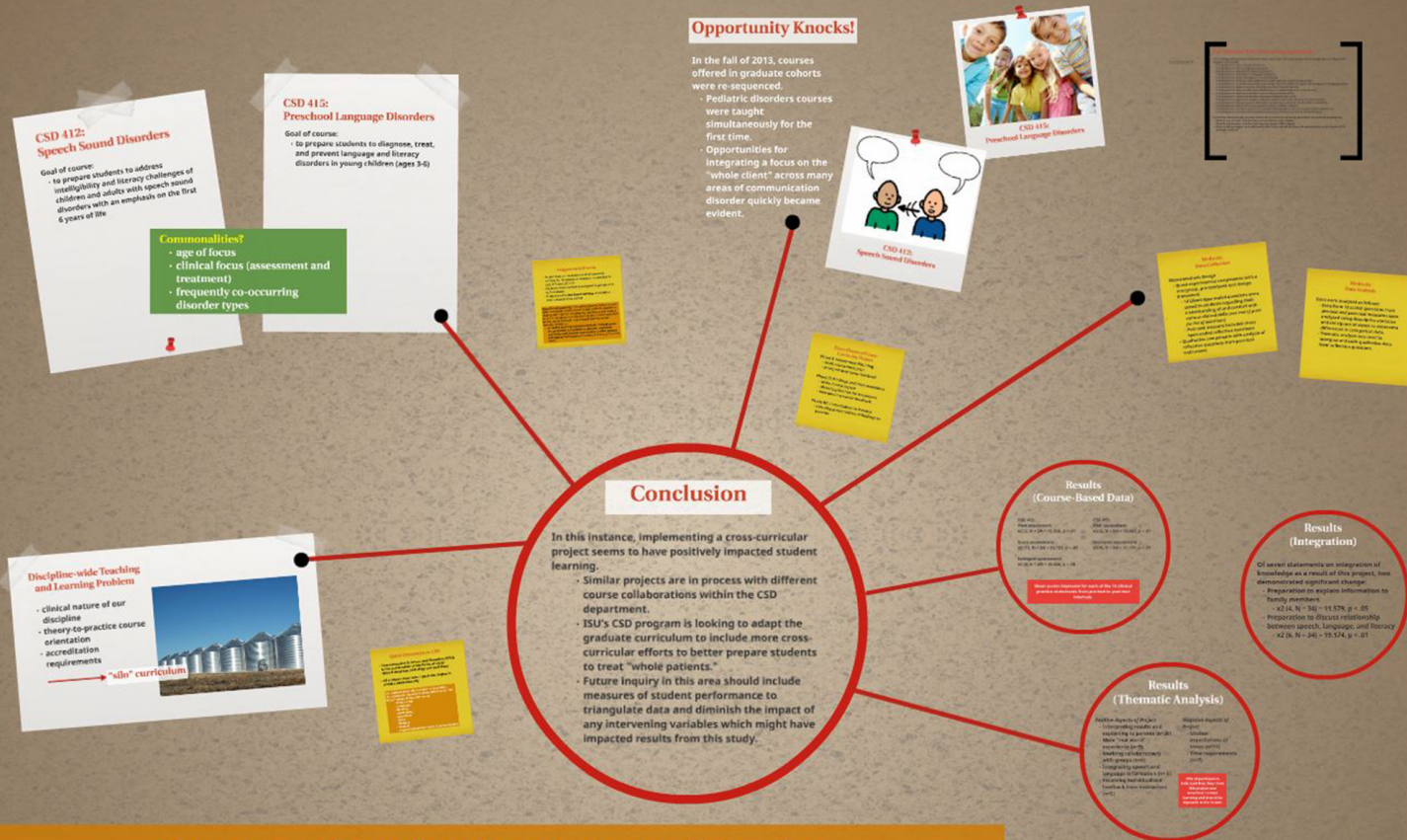
Cross-Curricular Learning in Communication Sciences and Disorders: Leaving the Silos Behind

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Quick Orientation to CSD

- **Communication Sciences and Disorders (CSD) is the combination of two fields of study: speech-language pathology and audiology**

- **All students must earn a graduate degree to practice professionally**

Accreditation via the Council on Academic Accreditation requires intense attention to "the Big 9" areas of disorder focus:
- Articulation
- Language
- Hearing
- Swallowing
- Cognition
- Voice
- Fluency
- Speech
- Augmentative/Alternative Communication

Discipline-wide Teaching and Learning Problem

- clinical nature of our discipline
- theory-to-practice course orientation
- accreditation requirements

⟶ **"silo" curriculum**

Opportunity Knocks!

In the fall of 2013, courses offered in graduate cohorts were re-sequenced.

- Pediatric disorders courses were taught simultaneously for the first time.
- Opportunities for integrating a focus on the "whole client" across many areas of communication disorder quickly became evident.

CSD 415:
Preschool Language Disorders

CSD 412:
Speech Sound Disorders

Mix
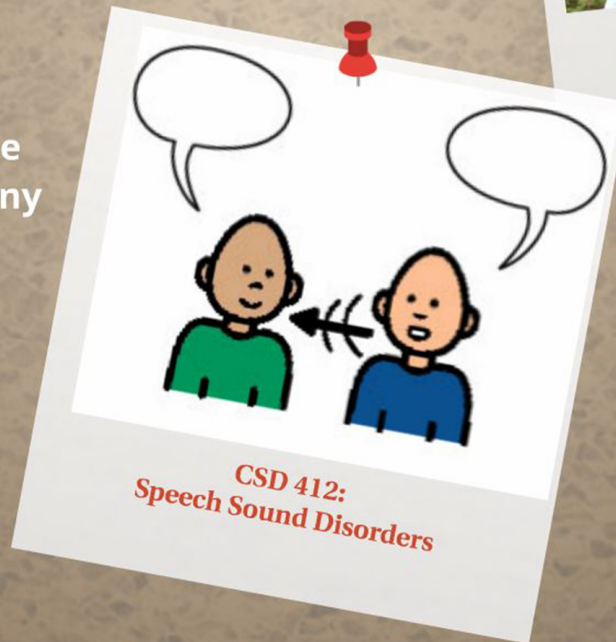
CSD 412:
Speech Sound Disorders

Goal of course:
- to prepare students to address intelligibility and literacy challenges of children and adults with speech sound disorders with an emphasis on the first 6 years of life

CSD 415:
Preschool Language Disorders

Goal of course:
- to prepare students to diagnose, treat, and prevent language and literacy disorders in young children (ages 3-6)

Commonalities?
- age of focus
- clinical focus (assessment and treatment)
- frequently co-occurring disorder types

Assignment & Process

- **Project was a cumulative, end-of-semester activity for 36 graduate students co-enrolled in CSD 412 and CSD 415**
- **Students were randomly assigned to groups of 4 to 5 students**
- **Project used a *case-based learning* orientation over a 4-week time period**

Case-Based Learning: This pedagogical technique is used often in clinically based classes to give students experience dealing with "real life" situations by applying course content to clinical situations in a safe learning environment controlled by the course instructor. Case-based learning can be formally defined as**:**

- **an active learning technique wherein clinical cases are presented to students to discuss, determine outcomes and present impressions to other groups and course instructors** (Ginsberg, Friberg, & Visconti, 2012)

Three Phases of Cross-Curricular Project

Phase I: Assessment Planning
- draft assessment plan
- interpret instructor feedback

Phase II: Findings and Interpretations
- write formal report
- identify priorities for treatment
- interpret instructor feedback

Phase III: Presentation to Parents
- role-play presentation of findings to parents

Methods: Data Collection

Mixed-Methods Design
· Quasi-experimental components with a one-group, pre-test/post-test design framework
 · 18 Likert-type scaled questions were posed to students regarding their understanding of and comfort with various clinical skills (*see end of prezi for list of questions*)
 · Post-test measure included three open-ended reflection questions
· Qualitative components with analysis of reflection questions from post-test instrument

Methods: Data Analysis

Data were analyzed as follows:
· Data from 18 scaled questions from pre-test and post-test measures were analyzed using descriptive statistics and chi-square analyses to determine differences in categorical data.
· Thematic analysis was used to interpret and code qualitative data from reflection questions.

Results
(Course-Based Data)

CSD 412:
Plan assessment
$x2$ (2, N = 34) = 12.960, p < .01

Score assessment
$x2$ (12, N = 34) = 23.132, p < .05

Interpret assessment
$x2$ (9, N = 34) = 20.580, p < .05

CSD 415:
Plan assessment
$x2$ (2, N = 34) = 10.667, p < .01

Interpret assessment
$x2$ (9, N = 34) = 21.121, p < .05

Mean scores improved for each of the 18 clinical practice statements from pre-test to post-test intervals.

Results (Integration)

Of seven statements on integration of knowledge as a result of this project, two demonstrated significant change:
- Preparation to explain information to family members
  - $x2$ (4, N = 34) = 11.579, p < .05
- Preparation to discuss relationship between speech, language, and literacy
  - $x2$ (6, N = 34) = 19.174, p < .01

Results
(Thematic Analysis)

Positive Aspects of Project
- Interpreting results and explaining to parents (n=20)
- More "real world" experience (n=9)
- Working collaboratively with groups (n=9)
- Integrating speech and language information (n= 5)
- Receiving individualized feedback from instructors (n=5)

Negative Aspects of Project
- Unclear expectations at times (n=12)
- Time requirements (n=7)

91% of participants indicated that they think this project was beneficial to their learning and should be repeated in the future.

Conclusion

In this instance, implementing a cross-curricular project seems to have positively impacted student learning.

- Similar projects are in process with different course collaborations within the CSD department.
- ISU's CSD program is looking to adapt the graduate curriculum to include more cross-curricular efforts to better prepare students to treat "whole patients."
- Future inquiry in this area should include measures of student performance to triangulate data and diminish the impact of any intervening variables which might have impacted results from this study.

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Pre-test and Post-test survey questions

The following statements were evaluated using a scale from 0 (strongly disagree) to 5 (strongly agree) at the pre-test and post-test intervals:
- I feel prepared to plan a sound assessment.
- I feel prepared to plan a language assessment.
- I feel prepared to administer a sound assessment.
- I feel prepared to administer a language assessment.
- I feel prepared to select appropriate assessment tools.
- I feel prepared to score an assessment tool to collect data on a client's sound system.
- I feel prepared to score an assessment tool to collect data on a client's receptive and/or expressive language system.
- I feel prepared to interpret scores yielded from a sound assessment tool.
- I feel prepared to interpret the scores yielded from a receptive/expressive language test.
- I feel prepared to determine whether a speech sound disorder exists.
- I feel prepared to determine whether a language delay/disorder exists.
- I feel prepared to determine whether a disorder exists in more than one area of communication.
- I feel prepared to use assessment information to determine a direction for prevention of disorders.
- I feel prepared to communicate assessment findings to family members.
- I feel prepared to explain to parents how speech and language interact for communication and literacy.
- I feel prepared to explain prevention/intervention methods and priorities to family members.

At the time of the post-test, students were asked to answer the following open-ended, reflection-based questions:
- What do you consider to be the most positive aspects of this project?
- What do you consider to be the most negative aspects of this project?
- What would you suggest as modifications in the future, should this project be repeated with other cohorts of CSD graduate students?

References

Ginsberg, S. M., Friberg, J. C., & Visconti, C. F. (2012). *Scholarship of teaching and learning in speech-language pathology and audiology: Evidence-based education*. San Diego: Plural Publishing.