Development of an organization level model of intervention for college students with learning disabilities

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Introduction

- Students with learning disabilities (LD) face diagnostically related challenges that can hinder their ability to manage needs and access essential supports.
- Interventions for supporting occupational performance are needed, ones that extend beyond current campus academic and disability supports.
- **The purpose of this research was to test a n organization level model of coordinated and holistic support for college students with LDs.**

Methods

Design and Setting

- One group mixed methods design to test four years of model implementation (August '13 - May '17).
- Qualitative data from focused group discussions, participant communications, and individual interviews were combined with quantitative data from outcome surveys and implementation data.

Participants

- Personal level research participants (*n*=52) were undergraduate STEM students who were registered with the campus disability office with a learning disability.
- Interpersonal level participants were graduate students (*n*=57) and faculty (*n*=34) enrolled as mentors for the undergraduates.
- Institutional level participants (*n*=34) were administrators and personnel from academic units and student service units who served on the LD-focused partnership council.

Analysis

- Thematic; descriptive & non-parametric statistics
- A continuous improvement process was used to evaluate factors influencing: model refinement and implementation, outcomes, and potential for institutional adoption of model activities.

Results

Model

Participation

Personal (*n*=34)
Undergraduates
- 76% completing the two years
- 25% undergraduates withdrew from the study
- **77% submitted at least one LD awareness project**
- 85% undergraduate group meeting attendance rate
- 73% undergraduates met with their disability office counselor

Interpersonal (*n*=57)
Graduate student mentors
- 74% completed (24% withdrew; 2% never matched)
- 43% attended group meetings in person (42% attended asynchronous means)

Institutional (*n*=52)
Partnership Council
- 67% Administrators
- 6% Non-administrative faculty
- 15% Non-administrative staff
- 12% Undergraduate student leader
- No Partnership Council members withdrew from project

Personal Level
"CS3LD changed my perspective on disabilities. It taught me to be comfortable in my own skin and to advocate for myself and others...." [U22]

Interpersonal Level
"Not only am I much more aware and sensitive to the number of students with LDs, but I have become proficient at recognizing symptoms, allowing me [to] change teaching styles if necessary." [M94]

Institutional Level
Following its institutional adoption, the Partnership Council was renamed as the Neurodiversity Council to reflect its evolved focus on supporting students with a broader range of learning styles and strengths.

Undergraduates' symptoms

- Digital visual analogue scale
- 0=no difficulty, 100=extreme/constant difficulty

Difficulty with...	Median (Inner Quartile Range)
Staying focused	75 (62, 94)
Managing time	65 (50, 81)
Extensive writing assignments	65 (31, 85)
Reading comp. - textbooks/academic publications	64 (50, 81)
Organization	62 (47, 79)
Memorizing and retrieving information from memory	57 (23, 85)
Following multi-step directions	56 (34, 70)
Expressing thoughts or opinions clearly	53 (22, 71)
Following others when they speak in conversation	50 (21, 73)
Applying different approaches to one problem	38 (18, 56)
Initiating activities, tasks, or independent ideas	34 (18, 63)

Self-efficacy & Campus Integration

Medians and Ranks

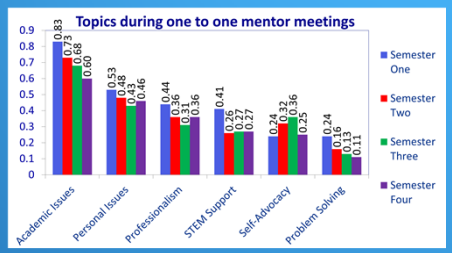
Instrument (*n* Available for Analysis)	Score Difference (test statistic, *probability*)	Baseline Total Score	2nd Semester Total Score
ABCS* (39)	+ 6 ($z = -.170$, $p = .03$)	87	95
IIS† (38)	+ 8 ($z = -3.677$, $p < .001$)	101	116

Note: higher scores desirable
*ABCS = Academic Behavioral Confidence Scale
†IIS = Institutional Integration Scale

LD-related Self-Advocacy

Question (*n*)	*Z* statistic	*p*-value* (2-tailed)	Median difference in ratings*
I know my strengths and limitations in the learning process (31)	-4.213	< .001	+2
I know what accommodations I need to bypass my limitations (33)	-4.275	< .001	+1
I can advocate for my specific LD needs with my instructors (33)	-4.094	< .001	+1
I know about supports at University of [blinded for review] specific to LD students (32)	-3.88	< .001	+1
I know how to be clear in requests and be prepared with explanations regarding my LD (33)	-3.716	< .001	+1
I know how to communicate about my LD with others (33)	-3.654	< .001	+1
I prepare ahead for communications about my LD with others (33)	-4.43	< .001	+1
I am comfortable educating others about my LD (33)	-2.185	.029	0

*Significance set at $p < 0.003$ using Bonferroni correction of $p < .05/20$
*Response options: 5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly disagree



Discussion

- On all levels, CS[3]LD model activities acknowledged and fostered understanding of LD-related cognitive processing strengths and challenges.
- Supports fostered students' abilities for self-managing expectations that extended beyond the classroom to areas of social activities, everyday living, and personal and professional role development.
- Key aspects of the mentorship include both an understanding of LD by the mentors, and the mentor's similar field of study.
- Shifting the composition of the Partnership Council to include non-administrators helped focus institutional level on actions for changes in service delivery.
- Involvement of representatives from student government and other diversity groups within the Council resulted in framing LD, and disability in general, as a matter of diversity and inclusion.
- The CS[3]LD model is distinctive in its coordinated provision of multi-level and holistic supports for students with LDs as students progress through college toward development of their desired careers and adult roles.

Conclusion

- The CS[3]LD model, as a framework for campus-based interventions, is a promising practice that positively impacted STEM students with LDs, mentors, and the campus environment.
- Multi-level and holistic supports are important for assisting young people with LDs in meeting the multifaceted occupational demands associated with striving for college success.

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