

# A Course-Based Model to Promote Successful Transition to College for Students with Learning Disorders

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## Abstract

*The purpose of the current study was to evaluate student perceptions of the impact of a course developed to assist students with learning disorders, both learning disabilities and attention-deficit/hyperactivity disorder (AD/HD), transition and adjust to a university environment. Students' perceptions of the impact of the course over time were assessed by a follow-up questionnaire sent to 222 students who had taken the course over the past eight years. In addition, students' perceptions of the immediate impact of the course were assessed by a pre/post version of the questionnaire administered to 68 students taking the class. For the follow-up questionnaire, the variables of acceptance, communication, learning preferences and styles, and academic self-confidence were found to be statistically significant. For both the pre/post and follow-up questionnaire participants' acceptance and understanding of their learning disorders and peer support were found to be statistically significant in transition and adjustment.*

The transition to college is difficult for all students. During this period of time college students are challenged with the developmental tasks of identity, integrity, meaningful relationships, autonomy, purpose, as well as the management of emotions (Chickering, 1969, Long & Long, 1970). In addition, students need to choose a major, pick classes, and do well academically.

For students with learning disabilities and attention-deficit/hyperactivity disorder (AD/HD), this transition can be especially difficult. For the purpose of this study, the term learning disorder is being used to encompass both students with learning disabilities and ADHD. Students with learning disorders not only face the typical developmental tasks but also the additional challenge of establishing on their own those educational supports that were mandated for them in high school. They will move from the familiar model of special education services at the high school level to very different services at the college level. Further, at the college level, significant changes occur in their legal rights, there is a sharp reversal of parental and student responsibility, and they will face an uncharted academic environment (Brinckerhoff, McGuire, & Shaw, 2002; Madaus, 2005).

## *Students with Learning Disorders and the Challenge of Transition*

The Individuals with Disabilities Education Act of 1990 (IDEA), the IDEA Amendments of 1997, and the IDEA of 2004 mandate inclusion of transition services into students' individualized education program (IEP) (Milson & Hartley, 2005). Nevertheless, research suggests that many college students with learning disorders are entering college without the transition skills necessary to successfully adjust to college (Harris & Robertson, 2001). Many students with learning disorders who enroll in postsecondary institutions have difficulty completing their programs (Mull, Sitlington, & Alper, 2001). Often students fail not so much because of poor academics but as a result of faulty preparation and subsequent difficulties in navigating and adjusting to their college environment (Harris & Robertson). A large-scale survey of service providers for college students with learning disorders at 74 institutions indicated that service providers felt that students had not been adequately prepared for the transition into college, and they rated students preparation for self-advocacy as their greatest weakness (Janiga & Costenbader, 2002).

Self-advocacy is an inherent factor in mediating a student's level of self-determination. Numerous re-

searchers have found self-determination to be a critical factor in the success of students with learning disorders transitioning into postsecondary schools. The degree or level of one's self-determination appears to be moderated by an awareness of one's academic and personal strengths and weaknesses, knowledge of one's disability, awareness of services and accommodations available, and the ability to use these services (Field, 2003).

Skinner and Lindstrom (2003) postulated 10 essential strategies for successful transition to college. The strategies included teaching students about their disorder; ensuring students have a full understanding of their psycho-educational evaluation; developing college-level compensatory strategies; teaching students to self-advocate; teaching students about the law; teaching students college-appropriate time lines; encouraging students to self-identify and seek appropriate assistance during their freshman year; teaching students how to organize for learning and living; emphasizing the importance of academic and social support networks; and encouraging participation in postsecondary preparation programs.

Students' acceptance of their disability was also influential in successful transitions (Janiga & Costenbader, 2002; Morrison & Cosden, 1997). In a 20-year longitudinal project, the critical stages of acceptance of a learning disability were examined and identified as (a) awareness of "differentness", (b) the labeling event, (c) understanding/negotiating the label, (d) compartmentalization, and (e) transformation. Suggested activities for facilitating the development of self-acceptance included counseling groups focused on coming to terms with learning disabilities, peer support groups, mentoring programs and the like, and strengthening disability awareness curricula and transition services to include consideration of the notion of acceptance of a disability and of persons with disabilities (Higgins, Raskind, Goldberg, & Herman, 2002). A peer-based support process was also found to be an effective means for enhancing general self-efficacy and study skills for college students with learning disorders (Zwart & Kallemeyn, 2001).

#### *Transition Courses for College Students*

A review of the literature indicates that the focus of most transition programs is on high school students as they move towards colleges and universities, rather than on actual college students (Brinckerhoff, 1996; Rojewski, 1996; Satcher, 1993; Skinner & Lindstrom, 2003; Smith, English, & Vasek, 2002). Although programs and services have been developed on college

campuses to serve the needs of students with learning disorders, few institutions keep follow-up data or evaluate the effectiveness of the services provided (Mull et al., 2001). Only two published reviews were found on transition courses that have been developed as a way of providing college students with learning disorders with the important elements to facilitate their successful transition (Yanok, 1993; Yuan, 1994).

In one course, students with and without learning disorders received academic assistance from a campus developmental learning center, including short-term individualized instruction in mathematics and composition writing, tutoring, and personal counseling. Students were administered non-standardized curriculum-based instruments before and after remedial reading and study-skills classes and at the conclusion of each course. Both groups benefited from their enrollment in the developmental education program. Developmental education programs may constitute a means by which colleges and universities can ensure an equal educational opportunity for students with learning disabilities (Yanok, 1993).

Understanding Learning Disabilities was a course developed at the Threshold Program at Lesley College in Cambridge, Massachusetts. It was designed specifically to address the difficulties students seemed to have in accepting their learning disability and, further, to help them develop self-understanding and self-advocacy skills. Staff observations and informal student feedback about the Understanding Learning Disabilities course were generally positive (Yuan, 1994). Furthermore, a research study conducted to examine the impact of the Understanding Learning Disabilities course strongly suggested that the course effectively helped students become more knowledgeable about their learning disabilities and enabled them to convey their strengths, weaknesses, and compensatory strategies (Roffman, Herzog, & Wershba-Gershon, 1994).

#### *Evaluation of Course-Based Model to Promote Transition*

The purpose of the current study was to evaluate student perceptions of the impact of a course developed to help students with learning disorders, learning disabilities and AD/HD, transition and adjust to a university environment. The course has been taught since 1992 at a competitive, research-oriented public university in the San Francisco Bay Area. The university is rated among the top public institutions in the nation with an undergraduate enrollment of 22,000 students. The average grade point average of entering freshmen in the fall of 2004 was 4.17.

*Description of course.* The course was developed as part of an existing series of study strategies courses offered by the university through the campus's Student Learning Center, which is sponsored by the School of Education. The series of two-unit pass/not pass courses are designed to help students learn about campus resources and improve the application of effective learning and study strategies. Separate sections of the course are offered for freshman, transfer, re-entry, and continuing students needing supplemental academic assistance. Due to the unique transition needs of students with learning disorders, the Student Learning Center collaborated with the campus's Disabled Students' Program and Counseling and Psychology Services to develop a separate course for students with learning disorders. The course was developed both for students with learning disabilities and ADHD as the functional impact of these disabilities is often similar in the academic environment.

Table 1 lists the course goals, methods, and content. As illustrated, the course integrates the factors postulated by Skinner and Lindstrom (2003) to be important for successful transition and adjustment to college and includes the following goals: understanding the diagnostic assessment process and one's own specific learning disorder; enhancing knowledge and acceptance of one's learning disorder; learning compensatory and other study strategies; understanding the law and becoming an effective self-advocate; utilizing assistive technology and other campus resources; empowering students through self-exploration and peer support. These factors are paramount in fostering self-determination, which is also critical to successful transitions (Field, 2003).

The instructors (specialists from the campus' Counseling Center, Disabled Students' Program, and Student Learning Center) create a course process in which students can openly discuss with each other the unique challenges that they face and explore together academic and personal strategies to assist them. Peer support and self-disclosure regarding one's learning disorder are a significant part of the class. Specific activities conducted and the tools and materials utilized to create a supportive environment are shown in Table 1. The course process of interactive discussions, sharing of one's own experiences, role-play, and small-group and individual presentations of course materials is also presented.

*Students.* The course is only open to students with learning disabilities and AD/HD who have documentation on file with the Disabled Students' Program. Enrollment is limited to 10-15 students per semester.

Recruitment focuses on first-year freshman and transfer students. Upon being admitted to the university, students receive information about the course as a part of a packet of materials regarding services for students with disabilities on campus. Students are also encouraged to take the class in individual meetings with their Learning Disability Specialists. If space permits, students with learning disorders who are not in their first year may also enroll.

*Approaches.* The present study examined the impact of the course using two approaches. In Approach 1, students' perceptions of the impact of the course over time were assessed by a follow-up survey sent to students who had taken the course between fall 1993 and spring 2002. In Approach 2, students' perceptions of the immediate impact of the course were assessed by a pre/post evaluation conducted on each class from fall semester 2002 to fall semester 2004. By utilizing both approaches, student perceptions of the immediate and long-term impact of the course could be evaluated.

### **Approach 1**

#### *Method*

*Participants.* All 222 students who had taken the course between fall 1993 and spring 2002 were sent a questionnaire regarding the course via mail in August 2002. The survey was sent to former students at their permanent addresses on file with the campus's Disabled Students' Program. Students could return the survey via mail or online. They were asked to return the survey within a week of receiving it. A follow-up reminder letter was sent a month later. Thirty-six surveys were returned to sender due to incorrect addresses. Seventy-three surveys were returned in all (43 surveys were completed online and 30 by mail), resulting in a response rate of 39%.

*Instrumentation.* The follow-up survey questions (see Appendix) reflect the course goals. Participants were asked to respond to the impact of the class and choose one of five categorical responses: the course helped "a great deal", "moderately," "somewhat," "a little," or "not at all." Respondents were also provided an opportunity to give an open-ended comment for each question. Open-ended responses were intended to yield more descriptive information about students' feelings and perceptions about the course. In addition to the questions shown in the Appendix, students were asked to provide demographic information about themselves, their disability, course level when they took the course, and the year in which they had graduated. The questionnaire was piloted on a sample of the peer mentors

**Table 1**

Course goals, content, and process.

<b>Course Goals</b>	<b>Course Content</b>	<b>Course Process</b>
To empower students through self-exploration and peer support.	Reader with chapters on self-concept and identity; self-esteem; and anxiety and stress management. Results of Myers-Briggs Type Indicator and Learning Styles Inventory.	Ice-breaker exercises. Small-group presentations. Interactive discussion of individual results of Myers-Briggs and Learning Styles Inventories.
To increase knowledge and acceptance of learning disorders in the university context.	Text, <i>Learning Between the Lines</i> , by Mooney and Cole.	Sharing of own experiences. Written reflections on text.
To understand the diagnostic and assessment process and one's own specific learning disorder.	Reader with articles on learning disabilities and AD/HD. Individual summary of psycho-educational assessment and/or AD/HD evaluation distributed.	Lectures. Interactive discussion of individual summaries of psycho-educational assessments and AD/HD evaluations.
To become an effective self-advocate.	Information on student rights and responsibilities under the ADA and Section 504.	Role-play exercises explaining disability and accommodations needed.
To improve the application of effective learning strategies, including developing oral communication abilities.	Reader and lectures on topics, including critical reading, time management, test-taking strategies, notetaking, and effective oral presentations.	Group discussion and in-class activities, including individual and group oral presentations.
To utilize assistive technology and other campus resources.	Visit Assistive Technology (AT) Center and attend individual appointments with AT specialist.	Guest lectures from College of Letters and Science, Student Learning Center, and other campus units.

who had assisted in teaching the course. The original questionnaire was modified based on feedback from the peer mentors and the campus's Office of Student Research.

*Data analysis.* To assess students' perceptions of the impact of the course, closed-ended responses were tabulated into percentages, and chi-square analyses were conducted for each question. To assess whether a greater percentage of students perceived that the course was effective than would be expected by chance, responses receiving "moderate" to "a great deal" ratings were collapsed into one category and compared with the collapsed category comprising "somewhat," "a little," and "not at all." For the questions depicted in the Appendix, 2 x 1 chi-square tests were performed and assessed for significance at  $p \leq .05$  to determine whether the course helped a "moderate" to "a great deal" versus "somewhat," "a little," and "not at all." A 4 x 2 Karl Person chi-square test of homogeneity was carried out for the question, "Which statement best describes your feelings and thoughts about your learning disorder before and after the class?" Missing values were excluded from the analysis. (Note: A few students either did not respond to all the questions or did not indicate their responses clearly, resulting in slight variations in sample size for each question.)

At the end of each question, students were asked to "please explain" their closed-ended rating. The open-

ended responses for each question were categorized into mutually exclusive themes. First, the open-ended responses to each question were read and potential themes identified. These themes were then labeled and operationally defined. The rest of the responses to the question were then read and coded into one of the pre-assigned themes. If a response did not fit into one of the themes, it was coded as "other." A second reader checked the themes and specific coded response (Henderson, Morris, & Fitz-Gibbons, 1987). The most frequently expressed themes for each question are reported in the Results section and provide descriptive information about student perceptions.

### Results

*Characteristics of respondents.* Survey respondents reflected the general composition of the student population who have taken the class over the past eight years. Sixty-one percent of the respondents qualified for services at the institution on the basis of a learning disability, 18% were identified as having AD/HD, and 21% had both learning disabilities and AD/HD. Fifty-eight percent were female. Eighty-nine percent had taken the class when they were first-year freshmen or transfer students. Forty-two percent of the survey respondents had graduated at the time they responded to the survey and over a third had taken the class from three to eight years before the date of the survey.

Table 2 illustrates student responses to the question, "Which statement best describes your feelings and

**Table 2**

*Which Statement Best Describes Your Feelings and Thoughts About Your Learning Disorder?*

		Understanding & Accepting that a LD is part of who I am	Feeling sad/down on myself because of my disability	Asking myself, "Why me, why did it have to be me?"	Telling myself I did not have a disability
Before					
Class	N = 70	44.3%	21.4%	15.7%	18.6%
After					
Class	N = 69	91.3%	4.3%	2.9%	1.4%



thoughts about your learning disorder before and after the class?" The 4 x 2 Karl Person chi-square test of homogeneity was significant,  $\chi^2(3, N=139)= 35.40, p \leq .05$ , indicating that as a result of the course, a greater percentage of students than would be expected by chance accepted their disability rather than to deny it, or feel angry or sad about it.

Table 3 illustrates student responses to the other survey questions. Chi-square tests were significant

for understanding learning disorder  $\chi^2(1, N=73)= 20.83, p \leq .05$ ; acceptance of learning disorder  $\chi^2(1, N=68)= 9.94, p \leq .05$ ; ability to communicate about learning disorder,  $\chi^2(1, N=66)= 15.52, p \leq .05$ ; understanding learning preferences and styles  $\chi^2(1, N=71)=19.28, p \leq .05$ ; and the importance of peer support,  $\chi^2(1, N=72)= 10.89, p \leq .05$ . The chi-square test approached significance for academic self-confidence,  $\chi^2(1, N=72)= 3.56, p=.06$ . For the variable of social adjust-

**Table 3**

*Responses to Survey Questions*

	<i>N</i>	A Great Deal	Moderately	Somewhat	A Little	Not at All
1. Extent Course Helped You Understand Your LD	73	41.1%	35.6%	12.3%	8.2%	2.7%
2. Extent Course Helped You Accept Your LD	68	39.7%	29.4%	14.7%	11.8%	4.4%
3. Helped You Communicate About LD	66	47.7%	27.3%	16.7%	9.1%	0%
4. Understand Your Learning Preferences Style	71	49.3%	26.8%	18.3%	1.4%	4.2%
5. Increased Your Academic Self-Confidence	72	26.4%	34.7%	20.8%	15.3%	2.8%
6. Helped Your Overall Academic Performance	70	21.4%	28.6%	31.4%	14.3%	4.3%
7. Extent Peer Support in Class Helped You	72	34.7%	34.7%	23.6%	2.8%	4.2%
8. Extent Course Helped You Adjust Socially to Cal	70	8.6%	25.7%	18.6%	25.7%	21.4%
9. Extent Course Helped Adjust Personally to Cal	70	22.9%	30%	22.9%	18.6%	5.7%

ment, the chi-square test was also significant,  $\chi^2(1, N=70)=6.91, p \leq .05$ ; however, in this instance, a greater percentage of students felt that the course had not increased their social adjustment. Finally, chi-square tests were not significant for course impact on overall academic performance,  $\chi^2(1, N=70)=0.00, p > .05$  and adjusting personally,  $\chi^2(1, N=70)=.22, p > .05$ . Table 4 shows the results of the analysis of the open-ended comments and depicts the most frequently expressed theme for each of the significant variables.

## Approach 2

### Method

*Participants.* All 68 students who enrolled in the class from fall semester 2002 to fall semester 2004 were administered a pre/post-version of the questionnaire. Characteristics of the respondents are shown in Table 4; they are similar to the characteristics of the survey respondents in Approach 1.

**Table 4**

*The Most Frequently Expressed Theme for Questions That Were Significant.*

Question	Most Frequently Expressed Theme
Extent Course Helped You Understand Your Learning Disorder	New knowledge enhanced understanding.
Extent Course Helped You Accept Your Learning Disorder	Peer support increased acceptance.
Helped You Communicate About Learning Disorder	New knowledge enhanced communication.
Understand Your Learning Preferences Style	Course content and methods were useful.
Increased Your Academic Self-Confidence	Course resulted in behavioral changes (improved grades, utilizing resources, etc.)
Extent Peer Support in Class Helped You	Knowing others with learning disorders is supportive.
Extent Course Helped You Adjust Socially to University	None.

**Table 5***Characteristics of Pre/Post-Test Respondents*

Gender	Males	Females	No Response			
Pre (68)	52%	47%	1%			
Post (50)	50%	50%	0%			

  

Type of Learning Disorder	Learning Disability	AD/HD	LD & AD/HD	Other		
Pre (68)	50%	19%	22%	9%		
Post (50)	48%	26%	22%	4%		

  

Class Level When Enrolled in Course	Freshmen	Sophomores	Juniors	Seniors	Graduate Students	Did Not Recall
Pre (68)	43%	7.4%	31%	18%	0%	1.5%
Post (50)	40%	8%	28%	24%	0%	0%

**Table 6***Which Statement Best Describes Your Feelings and Thoughts About Your Learning Disorder?*

	Understanding & accepting that an LD is part of who I am	Feeling sad/down on myself because of my disability	Asking myself, "Why me, why did it have to be me?"	Telling myself I did not have a disability
Pre (63)	65.1%	15.9%	4.8%	14.3%
Post (48)	87.5%	4.2%	2.1%	6.2%



Only 50 of the 68 students completed the post-version of the questionnaire, either because they did not attend the last class session or did not complete the class. Chi-square analyses comparing the demographic characteristics of the pre- and post-respondents indicated that there were no significant differences between the two groups for gender,  $\chi^2(2, N = 118) = 1.39$ , NS; type of disability,  $\chi^2(3, N = 118) = 1.43$ , NS; or college level  $\chi^2(4, N = 118) = 1.98$ , NS. Therefore, all data are included in the analyses.

*Instrumentation.* The same questions were used for the pre- and post-questionnaire as in the longitudinal follow-up study. The questions shown in the Appendix were modified in the pre-test version by not referring to the class. For example, the post test question, "To what extent did the course help you better understand your learning disorder?" in the pre test version read, "To what extent do you understand your learning disorder?"

*Data analysis.* The closed-ended responses were tabulated into percentages. In most cases, two sample binomial chi-square analyses were performed for each pre- and post-question (Marascuilo, 1971). The responses in "moderate" and "a great deal" were collapsed into one category and compared with the collapsed category comprising "somewhat," "a little," and "not at all." For the question "Which statement best describes your feelings and thoughts about your learning disorder before and after the class?" a 4 x 2 Karl Person chi-square test of homogeneity was done. Missing values were excluded from the analysis. (Note: a few students either did not respond to all the questions or did not indicate their responses clearly, and these responses could not be coded. Consequently, there are slight variations in sample size for each question.)

The open-ended responses for each question were analyzed using the procedures described for the follow-up survey in Approach 1, and the most frequently expressed themes are reported in the results section and provide descriptive information about student perceptions.

### Results

Table 6 illustrates pre- and post-responses for the question, "Which statement best describes your feelings and thoughts about your learning disorder?" The 4x2 Karl Person chi-square test of homogeneity approached significance,  $\chi^2(3, N=111)=7.45, p=.06$ , indicating that as a result of the course, a greater percentage of students than would be expected by chance

understood and accepted their disability rather than denying it, or feeling angry or sad about it.

Table 7 illustrates pre- and post-responses for understanding learning disorder. The two-sample binomial chi-square test was significant,  $\chi^2(1, N = 117) = 10.17, p \leq .05$ , indicating students felt that the course improved their understanding of their learning disorder. On the pre-test open-ended question regarding understanding, the most frequently expressed theme was that students had pre-existing knowledge about their disability. However, on the post-test open-ended question regarding understanding, the most frequently expressed theme was that new knowledge about the student's disability was obtained as a result of the course.

Table 8 illustrates pre- and post-responses on the extent to which peer support helped. The two sample binomial chi-square test was significant,  $\chi^2(1, N = 109) = 12.21, p \leq .05$ , indicating students felt peer support in the course was helpful. On the pretest open-ended question regarding peer support, the most frequent theme was that of not having much peer support. In contrast on the posttest open-ended question, the most frequent theme was that the opportunity to be with other students with learning disorders was helpful.

Table 9 illustrates pre- and post-responses for social adjustment. The two-sample binomial chi-square test was significant,  $\chi^2(1, N = 115) = 14.80, p \leq .05$ . However, in this case results indicate that respondents rated their social adjustment more positively on the pre-test. On the pre-test open-ended question regarding overall social adjustment, the most frequent theme was that of pre-existing social adjustment. On the posttest the most frequent theme was that the class enhanced social adjustment.

The two-sample binomial chi-square tests were not significant for acceptance of learning disorder,  $\chi^2(1, N = 109) = 0.22, p > .05$ ; ability to communicate,  $\chi^2(1, N = 113) = 1.68, p > .05$ ; understanding learning preferences and styles,  $\chi^2(1, N = 117) = 1.71, p > .05$ ; academic self-confidence  $\chi^2(1, N = 117) = 0.13, p > .05$ ; and overall academic performance,  $\chi^2(1, N = 111) = 2.35, p > .05$ ; indicating that there was no difference between the pre- and posttest scores regarding course impact on these dimensions.

## General Discussion

This study assesses student perceptions of the impact of a course designed to help students with learning disorders transition and adjust to a college environ-

**Table 7***How Much Do You Understand About Your Learning Disorder?*

	A Great Deal	Moderately	Somewhat	A Little	Not at All
Pre (67)	13.4%	40.3%	25.4%	17.9%	3%
Post (50)	36%	46%	10%	8%	0%

**Table 8***To What Extent Do You Feel Peer Support Has Helped You?*

	A Great Deal	Moderately	Somewhat	A Little	Not at All
Pre (60)	21.7%	18.3%	16.7%	25%	18.3%
Post (49)	46.9%	26.5%	18.4%	6.1%	2.0%

**Table 9***How Have You Adjusted Socially to Cal?*

	A Great Deal	Moderately	Somewhat	A Little	Not at All
Pre (66)	28.8%	31.8%	27.3%	10.7%	1.5%
Post (49)	4.1%	20.4%	49%	12.2%	14.3%

ment. Statistically significant results were obtained for both the survey and pre/post-respondents on the following variables: (a) students perceived that the course helped them to understand and accept rather than to deny, feel sad about, or feel angry about their learning disorder; (b) the course improved their understanding of their learning disorder; and (c) peer support was a very important part of the course.

Student comments in both studies indicated that the course helped them to understand their learning disorder by providing them with new knowledge. For example, one follow-up survey respondent stated, "When I was first diagnosed, I had no inkling what my disability was. When I took the class it was thoroughly explained to me so I can understand." Similarly, a respondent on the posttest noted, "This is the first time someone actually explained what my learning disability means and how it affects me."

Students in both studies indicated that the opportunity to meet other students with learning disorders was supportive and a very significant part of the course. For example, one survey respondent stated, "Like I said, it was great knowing that there are other students out there that feel the same way. Everyone was extremely supportive and open to one another. I really looked forward to going to class every Wednesday afternoon." Similarly, a respondent to the posttest comments, "I found it particularly helpful to discuss my struggles and strategies with others."

The importance of the peer support provided by the class is also underscored by the fact that prior to taking the class, most respondents stated that they did not feel they had peer support regarding their learning disorder. A comment typical of the pretest respondents regarding peer support is exemplified in the following student response: "None of my friends knew about my disability except those closest to me and they didn't really know how to support me."

Statistically significant results were obtained for the survey respondents for variables of acceptance, communication, learning preferences and styles, and academic self-confidence. With regard to course impact on acceptance, one survey respondent reflected, "This course helped me see that there were other people out there just like me. Before I took this course I was ashamed that I had a learning disability and I didn't want to talk about it with other students because I feared that they would judge me; however, it was great to take the class and hear from other students that they were going through the same things I was experiencing." With regards to course impact on communication, one survey respondent wrote, "I learned

how to express in words what was going on with me and how people including professors could assist me. That was probably what helped me the most in this class."

As mentioned, results were not statistically significant for the pre/post-sample for acceptance, communication, academic self-confidence, and learning preferences. Possible reasons for the disparate findings in the two approaches need to be explored. One reason is the methodological difference itself. The survey respondents were only asked to comment on the impact of the course. In contrast, the pre/post study examined students' pre-existing perceptions of their abilities and assessed the statistical difference between the pre- and post-ratings. An important finding of this study is that a majority of the participants in the pre/post sample rated themselves as having some level of pre-existing abilities in these areas. Another reason for the difference may be that the survey respondents had a greater amount of time to integrate and utilize what they learned in the course, and therefore perceived the course to be more beneficial. The pre-post students' open-ended responses to these questions, although not conclusive, suggest that this may be the case. For example, one student wrote about acceptance, "Although I am still struggling to follow through with successful study strategies, speaking with other intelligent and thoughtful people with learning disabilities and ADHD was very encouraging. Having to focus and talk about my learning disability makes it all much more concrete which helps me to understand and accept it."

In both the survey and pre-post approach, students indicated that the course helped them to understand and accept their learning disorder rather than denying, feeling sad, or angry about it. However, when students were asked to state separately their level of acceptance and their level of understanding, significant results were found for the survey and the pre/post respondents on the variable of understanding but not acceptance. Given that research suggests there may be stages of acceptance (Higgins et al., 2002), future research needs to examine the impact of the course on stages of acceptance rather than acceptance as a unitary construct.

Non-significant results were found for both the survey and pre/post respondents on the following global measures: overall academic performance and overall personal adjustment. Students' open-ended comments in both approaches indicated that they perceived that there are many other factors aside from the course that contribute to these global outcomes. Further studies are needed on the other factors that influence these

global areas of academic performance and personal adjustment. Finally, both approaches resulted in self-reports of decreased social adjustment. The open-ended comments of both the survey and pre-post respondents suggested once again that students perceived that there were many other factors aside from the course that influenced social adjustment. However, the self-report of decreased social adjustment suggests that the course needs to better address this issue.

A major implication of this study for postsecondary education is that a course-based model can improve students' understanding and acceptance of their learning disorder and that these factors are important for a successful transition and adjustment to college. According to the students in both studies, a learning environment that provides students with learning disorders an opportunity to share experiences and problem solve solutions is an important factor in bringing about these changes. The strengths of a course-based model to facilitate transition and adjustment to college are many. For example, a course-based model provides a structured forum for integrating the strategies that research has shown to be critical for transition and adjustment to college (Skinner & Lindstrom, 2003). A course-based model is also proactive. That is, rather than wait until students need remedial services such as counseling to effectively transition and adjust to the university, students in their first semesters are presented with the knowledge and support needed to successfully adjust to college.

The present study has some limitations. The study tapped student perceptions of the impact of the transition course based on the premise that positive self-perceptions are important for academic and personal success; however, it did not measure specific cause-and-effect outcomes on student achievement or other measures.

Another limitation of the study is the lack of a control group. Although the study compared participants' perspectives both over time and immediately after taking the course, future research needs to include a control group. Students who elect to take this course may not be reflective of all students at the university with learning disorders. A control group would also provide a comparison of outcomes of the course-based transition model to more traditional campus services for students with learning disorders. The study also did not address variables that could have affected outcomes, such as the differential impact of the course on type of disability (learning disabilities versus ADHD) or other background characteristics of the participants such as the level of severity of the disability or types of supports provided prior to entering college. A further limitation is that the sample of students in the study and the resulting institutional characteristics may not apply to all college populations with learning disorders. Students in this study were all attending a competitive research institution, and the results may not apply to college students with learning disorders in other types of college settings.

## References

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## Appendix

### Questions Included on Follow-Up Questionnaire

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- 1a). Which statement best describes your feelings and thoughts about your learning disorder before taking the class?
    - Understanding and accepting that a learning disorder is part of who I am
    - Feeling sad/Feeling down on myself because of my disability
    - Asking myself, “Why me, why did it have to be me?”
    - Telling myself I did not have a disability.
  - 1b). Which statement best describes your feelings and thoughts about your learning disorder after taking the class?
    - Understanding and accepting that a learning disorder is part of who I am
    - Feeling sad/Feeling down on myself because of my disability
    - Asking myself, “Why me, why did it have to be me?”
    - Telling myself I did not have a disability.
  2. To what extent did the course help you understand your learning disorder?
  3. To what extent did the course help you accept your learning disorder?
  4. To what extent did the course help you communicate about your learning disorder?
  5. To what extent did the course help you understand your learning preferences and styles?
  6. To what extent did the course increase your academic self-confidence?
  7. To what extent did the course help your overall academic performance?
  8. To what extent did you feel peer support in the class helped you?
  9. To what extent did the course help you adjust socially to Cal?
  10. To what extent did the course help you adjust personally to Cal?
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