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About *The Learning Assistance Review*

The Learning Assistance Review is an official publication of the National College Learning Center Association (NCLCA). NCLCA serves faculty, staff, and graduate students in the field of learning assistance at two- and four-year colleges, vocational and technical schools, and universities.

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Editorial Board

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Letter from the Editor

I am proud to announce the new TLAR editor will be Michael Frizell, Director of Student Learning Services at Missouri State University. He will step down from his current position as NCLCA Corresponding Secretary at the completion of the NCLCA Fall 2012 conference in Reno, Nevada to assume the TLAR editor position, effective for Spring 2013 issue. Unfortunately—or fortunately (depending on how one views it)—at the time of this writing, the managing editor position is still open. Please read the job description listed in this issue, and if you have editing experience, apply!

I look forward to begin training Michael during the preparation of my final issue, Fall 2012. In the meantime, I would like to entice you into this wonderful Spring 2012 issue (Yes, you are correct, it is coming to you earlier than usual).

Our first article by Thomas Brothen, "Should Special Program Students be Placed in Separate Course Sections?" discusses an empirical study that compares grade performance between special admission students who participated in either separate or segregated discussion sections while attending an introduction to psychology course. The data suggests segregated sections are not necessary for student success; Supplemental Instruction (SI) programs promote more success.

Diana Calhoun Bell and Alanna Frost, in "Critical Inquiry and Writing Centers: A Methodology of Assessment," examines one writing center's role in student success; this project offers two examples of the way writing centers impact student engagement. This analysis models a methodology writing and learning center directors can utilize in order to foster effective communication with stakeholders.

The final article, "Nursing Students' Awareness and Intentional Maximization of their Learning Styles," by Linda Riggs Mayfield, presents a small, descriptive, pilot study addressing survey data from four levels of nursing students who had been taught to maximize their learning styles in a first-semester freshman success skills course. This study's outcomes indicate that the participants who were taught learning style strategies believed they retained and applied the information throughout all levels of their degree programs.

Following last issue's lead, I have two exciting books reviews again this issue. Christopher Lackey reviewed *A Training Guide for College Tutors and Peer Educators*, a "hands-on" approach to theory and practice for beginner through expert tutors. Joni Trempe reviewed *Teaching Study Strategies in Developmental Education*, which includes a compilation of some of the leaders in our field outlining best practice.

I hope everyone will enjoy this issue, and, as always, continue to submit more excellent articles.

Christine Reichert
Editor

Should Special Program Students be Placed in Separate Course Sections?

THOMAS BROTHEN
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Abstract

This article describes the evaluation of separate discussion sections for special admissions students participating in a developmental program and attending an introduction to psychology course. In year one, the special admissions students were segregated into separate small enrollment discussion sections within the larger course. In year two, they were integrated into the regular discussion sections. Evaluation of grade performance between the two year periods and comparison of their performance with matched controls each semester revealed no differences. Therefore, the data suggests that segregated sections are not necessary for the success of these students and activities such as Supplemental Instruction (SI) promote more success.

Wambach and Huesman (2010) recently reviewed the literature on unique student populations and reported that underprepared students admitted to research universities are most likely to experience summer bridge programs, assistance from writing centers, tutoring, and Supplemental Instruction (SI) instead of developmental courses in reading, mathematics, and study skills. This development was predicted by Arendale (2000) in his overview of issues and challenges facing developmental education. The approach taken by research universities to create interventions for such students is also consistent with Wambach, Brothen, and Dikel's (2000) proposal for a new theoretical conceptualization of and Brothen and Wambach's (2005) subsequent proposal for a reinvigorated approach to practice in developmental education. This paper evaluates one aspect of these new approaches to interventions with underprepared students.

In the Fall Semester of 2008, the University of Minnesota instituted a new program called Access To Success (ATS), residing in three colleges (Education, Liberal Arts, and Natural Resources) that admitted underprepared students to special instructional programs. As the university website declares, "The mission of the ATS program is to help ensure the academic success of… students who have demonstrated strong potential to succeed, but whose high school records may not match the typical profile of students admitted to the college" (College of Liberal Arts, n.d., para. 2,3).

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The program in the college of Liberal Arts targeted several large courses in the regular curriculum that were to have specially designed discussion sections with smaller enrollment dedicated only to ATS students. Each semester, students admitted to the program participated in an intensive advising program and attended an orientation course, a basic writing course, and two "content" courses such as the Introduction to Psychology course taught by the author of this paper.

For the psychology course, this meant that in addition to attending a large (n = 700) lecture three hrs/week, first year ATS students attended one of two 17 student discussion sections instead of the usual 32 student section one hour/week. The section leader (SL; a graduate teaching assistant) delivered lesson plans that reviewed major concepts and made herself available in and outside of class for student questions and extra help for students enrolled in targeted sections. Students also completed short writing assignments. These activities were basically the same as for all other students in the course. In addition, all students had online chapter quizzes to complete outside of class and a study guide that helped them prepare for three mid-semester exams and one final exam. The SL with the most teaching experience was assigned to the two ATS sections. She was also well versed in issues of student achievement and did individual interventions with students who were not doing well on exams, etc. Also, ATS students were invited (but not required) to attend an SI section run by the ATS program once each week that functioned according to standard SI principles and practices (Arendale, 2002).

Based on the first year data reported below, the students' experience in the discussion sections changed for the second year. Brothen and Wambach (2005) suggested that integrating underprepared students in regular classes is preferable to segregating them in special course sections and that suggestion was implemented in year two. In the first year, the sections enrolled fewer students and thus were more expensive to teach than regular sections. In addition, the whole idea of special sections was not particularly liked by students. The SL reported widespread complaining by her students about the fact they had to be in separate sections rather than in ones that better fit their schedule preferences or allowed them to be in class with their friends. Accordingly, the special sections were eliminated for year two and the ATS program was required to schedule students in the regular sections with other non-ATS students.

The hypothesis in this study was that course performance of ATS students would not suffer from their integration into the regular sections. The data below details the evaluation of the two different ATS interventions for students in the course.

Method

Over the two years (four semesters) of this study, 134 students registered in the ATS sections and stayed in the course past the second week—long enough to receive official final grades at the end of the semester. The semester enrollment totals were Fall 2008: 33, Spring 2009: 29, Fall 2009: 31, and Spring 2010: 41. For each semester, matched control groups of equal sizes were created for the ATS students. To do this,

admissions data on all students was obtained from the University records office consistent with the University's Human Subjects protocols. The first matching criterion was that matches had to be a first year student in the college. The second criterion was that they had to have aptitude ratings similar to the corresponding ATS student. For each ATS student, a student was found with a similar score on the academic aptitude rating (AAR)—a measure created by adding a student's high school percentile rank (HSR) to a number obtained by doubling that student's ACT Comp score. The AAR is the University admissions office's basic rating of students for admission. Fifteen ATS students did not have high school rank data in their records so they were matched on first year/same college status and as close as possible on ACT Comp score. The author of this study has no ready explanation for why matched control students who were not in the ATS program were found in the course other than sometimes admissions criteria change during the admissions process or that some underprepared students were admitted after the ATS program had reached its enrollment maximum. Suffice it to say, equal numbers of students were found in the classes who were nearly identical to the ATS students on their measures of academic potential.

Results

The maximum possible AAR score is 171 (HSR of 99 + twice the maximum ACT score of 36). The "floor" for "automatic" admission to the College of Liberal Arts is approximately 145 and students with scores below that are subject to individual review. The means for all the freshman students were AAR = 135.36 (*SD* = 14.99) and ACT Comp = 26.09 (*SD* = 3.33). ATS students' and their matched controls' means were well below the floor. The total ATS sample had a mean score of 111.83 (*SD* = 12.04) and the matched controls had a mean of 113.13 (*SD* = 10.84). This difference was not statistically significant (t = .878, p = .381). For the 15 pairs of students matched on ACT Comp, the means were virtually identical (22.93 vs. 22.87) and not statistically different for ATS vs. matched controls.

The course assignments and grading standards did not change materially over the two years of this study. Nevertheless, to better compare students between semesters and years, standardized final course grades for the ATS and matched control students were computed by converting all possible letter grades to numbers (F = 0, D = 1, D+ = 2, C- = 3, C = 4, C+ = 5, B- = 6, B = 7, B+ = 8, A- = 9, A = 10) and calculating *z-scores* for all students in the class. Overall mean z-scores for the two years combined were -.72 (*SD* = 1.03) for ATS students and -.54 (*SD* = 1.00) for the matched controls (see Table 1).

Thus, ATS students achieved an average grade nearly three fourths of a standard deviation below the overall class mean whereas the matched controls were about one half standard deviation below it. These differences between ATS and matched controls did not reach statistical significance (t = 1.404, p = .162). The primary research question in this study is whether ATS students differed from controls within each semester over the two year study.

Table 1

Mean Standardized Grades by Semester and Student Groups

Semester	ATS z-grades	Control z-grades	N of pairs	*t*-test *p*-value
1	-.40	-.56	33	.498 (n.s.)
2	-.82	-.60	29	.254 (n.s.)
3	-.55	-.31	31	.362 (n.s.)
4	-1.03	-.67	41	.131 (n.s.)
Combined	-.72	-.54	134	.162 (n.s.)

Note. The four semesters of ATS Standardized Grades did not differ significantly from each other by post hoc Sheffe contrasts.

In the first semester of the study (see Table 1), ATS and control students did not differ on the selection variables of AAR and ACT Comp or on their course performance. Their standardized grade means were ATS z = -.40 (SD = .95) and Control z = -.56 (SD = .91). These differences were not significantly different (t = .682, p = .498).

In the second semester of the study, ATS and control students also did not differ on the selection variables of AAR and ACT Comp or on their course performance. Their standardized grade means were ATS z = -.82 (SD = .93) and Control z = -.60 (SD = 1.02). These differences were not significantly different (t = 1.151, p = .254).

In the third semester of the study—when ATS students were not segregated but distributed throughout discussion sections, ATS and control students once again did not differ on the selection variables of AAR and ACT Comp nor on their course performance. Their standardized grade means were ATS z = -.55 (SD = 1.03) and Control z = -.31 (SD = .95). These differences were not significantly different (t =.919, p = .362).

In the fourth and final semester of the study—ATS and control students again did not differ on the selection variables of AAR and ACT Comp nor on their course performance. Their standardized grade means were ATS z = -1.03 (SD = 1.03) and Control z = -.67 (SD = 1.06). These differences were not significantly different (t =1.526, p = .131).

On the important criterion of course grade, ATS students did not differ significantly from controls in any of the semesters over the two year period. However, ATS students differed from each other on semester mean course grades over the course of this study. They varied from a "high" of .40 standard deviations below the mean in the first semester to a low of 1.03 standard deviations below the mean in the last semester. Analysis of variance revealed an overall significant difference in these means with $F(3,129)$ = 2.77, and p =.049 but post-hoc Scheffe contrasts comparing each mean with the other three showed no statistically significant differences between all possible combinations of semester comparisons. Therefore, there were no systematic grade differences between ATS and between ATS and control students for any of the four semesters in this study.

Finally, the possibility remained that ATS students were disadvantaged by elimination of the small, intensive sections used in year one and their subsequent integration into the regular sections in year two. Because initial selection of students for the ATS program was not entirely based on AAR but also included examination of high school courses taken and extra-curricular activities engaged in, comparisons between ATS and controls for specific semesters may not tell the entire story. Comparison of all ATS students from year one with all ATS students in year two could possibly show differences. Accordingly, AAR and course grades of ATS students over both semesters within each year were combined. Year two ATS students had slightly higher AAR scores than students in year one (113.16 vs. 110.39) but these differences were not statistically different (t =1.26, p = .210). Mean standardized grades for ATS students in year one (z = -.60,SD = 1.08) did not differ statistically from ATS students' grades in year two (z = -.82, SD = .95) with t =1.237, p = .218. Overall, no differences existed between ATS and control students in several ways of comparing them.

Discussion

The data from this study indicates that segregating underprepared students in special, intensive sections of introductory psychology was not beneficial to their course performance. In addition, the value of the ATS program as a whole did not reveal itself to be necessary for student success in the introductory psychology course. Students not part of the ATS program matched on similar selection variables for ATS had higher (but not statistically significant) grades in the course. However, because they were not in the ATS program, there could have been other factors affecting their performance in our course. It is thus not possible to draw precise conclusions about the overall value of the ATS program from the results of this study.

Implications

It is reasonable to conclude that special course sections such as the ones used in year one are not crucial to the success of underprepared students. The overall course design was consistent with the model of Universal Instructional Design (UID) detailed in Brothen, Wambach, & Hansen (2002) in which the course structure is flexible enough for all students to be successful if they engage the material. The learning support activities in the class were designed to meet all students' needs. For example, students could take online chapter quizzes as many times as they needed to get feedback on their learning progress and their highest scores counted toward their grades. It is reasonable to say that this UID approach is better than segregating students and the data from this study supports this assertion.

If, as Arendale (2000) has suggested, programs such as those of the University of Minnesota's ATS Program are becoming more common at four-year colleges and universities to deliver developmental education interventions to underprepared students, studies such as the one reported here will be necessary to guide planning and implementation of these programs. The results of this study suggest that academic administrators should work with faculty to find ways for all students to be successful instead of dividing courses into segments for different students. This includes

designing courses consistent with principles of UID along with providing opportunities such as SI—particularly if it addresses particular student needs (cf., p.88., Madyun, Grier, Brothen, & Wambach, 2004).

Further Research

It is also clear that further research needs to be done to determine what is effective in such environments. The findings in this study suggest that in year two, because ATS students were not in a special section, they may have decided they needed more work in the SI section. In this interpretation, although year one ATS students got extra attention in smaller sections led by a highly experienced instructor, it was likely easily replaced by the SI experience. To test this possibility, attendance data was collected from the instructor who ran the SI section for the ATS students and correlated with course grade. In the first year, the relationship was near zero (r = +.079, n.s.) but in year two, it was substantial (r = +.682, p = .01). In addition, students in year two attended more SI sessions (M = 9.00, SD = 4.03) than those in year one (M = 7.40, SD = 4.69) and this difference was statistically significant with t =2.02, p = .045. The SI section was not run differently over the two year period but ATS students in year two appear to have benefitted more from it.

Research on SI has a long history (Arendale, 2002). But a new look at SI and other interventions should be done with a new generation of students in new settings. In particular, this study suggests intensive evaluations of ATS type programs and the interventions they use should be ongoing to determine what works and how such programs should be structured.

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Critical Inquiry and Writing Centers: A Methodology of Assessment

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Abstract

By examining one writing center's role in student success, this project offers two examples of the way writing centers impact student engagement. This analysis models a methodology that writing and learning center directors can utilize in order to foster effective communication with stakeholders. By conducting data-driven assessment, directors can begin to gather materials with which to negotiate with administrators and situate their centers at the core of student engagement. This work offers a methodology and sample data that produces critical inquiry and the requisite assessment that articulates writing center value.

Postsecondary institutions increasingly call upon writing center directors to engage in the institutional language of quantitative and outcomes assessment. Despite an awareness of the limited resources most centers are allocated, institution administrators often require directors to provide assessment data to justify—usually in quantitative terms—the existence of the writing center for reasons of funding, space, and allocation of intellectual capital resources. These requests can be particularly challenging for writing centers because of a) directors' lack of resources necessary for program assessment; b) writing centers' dependence on qualitative data (Lerner, 2001; Carino & Enders, 2001; Griffin, Keller, Pandey, Pedersen, & Skinner, 2006; Thompson, 2006); c) a historical disconnect between the academic work of the writing center and the service work of institutional administration (Griswold, 2003); and d) the sheer complexity of isolating factors which potentially connect writing center work to the broad university mission (Lerner, 2001; Carino & Enders, 2001). But, in terms of concern for student success, writing center administration can utilize data that are regularly collected to fulfill our roles as "ticket tearers at the writing center turnstile" (Lerner, 2001, p 1). This article offers two models of outcomes based assessment conducted at a mid-size southeastern Research I institution; the goal of this project is to summon writing center practitioners to reexamine programmatic goals in light of institutional and administrative concerns, not the least of which includes demonstrating our contribution to the university with empirical data that is easily situated in a larger measurement of student outcomes.

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Writing Centers and Critical Inquiry

In 1998, Faigley wrote a cautionary article published in *The Writing Center Journa*l urging writing center directors to insert themselves into the political and administrative power structures that shape policy decisions in their institutions. Universities are in the midst of great change in the face of a postindustrial economy, he warns, and "writing centers should and must take a leadership role—should for the good of the institution and must for their own continuing development"(p.16). Echoing Faigley's call for writing center administrators to be agents of change, scholars like Simpson and Mullin argue for disciplinary professionalization. Mullin (2000) explains that professionalization is a "necessary step towards being recognized as part of an academic institution, one that speaks to particular sets of audiences and recognizes that we need to adopt the language—the genre—of our context" (p.2).

Yet, historically, the writing center community tends to narrowly define that context; we communicate among ourselves, and lament our place on the margins of the institution. Gardner and Ramsey (2005) directly address the ubiquitous and crippling nature of writing center narratives which describe a marginalized status. They argue that writing center identity that is bound to margins necessarily limits, indeed binds, our work. Touching on 20 years of writing center scholarship, Gardner and Ramsey recognize common identity markers used by scholars to locate writing centers' as "anti-curriculum." Necessarily, these markers situate writing center identity against opposing educational goals: writing centers are "liberatory" as opposed to "regulatory," or sites of "empowerment" as opposed to those of "coercion." But, problematically, Gardner and Ramsey argue, the forces opposing writing centers' liberatory goals—the regulatory, coercive forces—emerge within the institutions in which we operate.

This implicit critique of the institution makes nearly impossible clear articulations of the multiple ways the writing centers contribute to the academy and, therefore, leaves us with "no effective language for sitting down with deans, vice-presidents, or boards of trustees and describing in a discourse they can understand our contributions to the mission of the university"(Gardner & Ramsey, 2005, p.26). Gardner and Ramsey's important assertion reminds writing center directors to productively engage in institutional assessment by articulating the implicit connection of critical inquiry.

Indeed, it is a focus on the relationship between critical inquiry and institutional privileged language—recognition that writing center directors must utilize data to articulate a position within the academy and to its administration—that increasingly finds its way into writing center scholarship. As Griffin et al. (2006) remind us, The Writing Center Research Project was designed in order to gather "quantitative data about writing center operations" for directors […] and the academic administrators to whom they report" (p.3). Thompson (2006) entreats writing center administrators to conduct routine assessment that not only speaks to externally mandated assessment but also fosters a professional responsibility, requiring us to perform within the same framework of our fellow academic units and to "show that our services are effective through data collection and analysis" (p.37-38).

It is important to note that such work finds its way into our journals consistently but sporadically. Scholars, like Thompson and Bell (2006; 2000), argue that writing center administrators fear the definitive nature of summative evaluation. Griswold (2003) attaches the dearth of quantitative attention to broader institutional assessment within historical institutional divisions. Academic affairs (in which Griswold locates writing centers) and student affairs traditionally operate as separate units with compatible goals and therefore differing evaluative tools; Griswold specifically argues, therefore, that writing centers have not had the same access to or interest in the retention data that student affairs units regularly utilize as part of their program assessment.

Perhaps, indeed, academic support units' discomfort with quantitative assessment, and the complexity of a comprehensive isolation of the factors that make writing centers work, contribute to the disconnect between writing center and institutional assessment. Kinkhead and Harris (1993) explain that "there is little agreement about specific political issues, administrative procedures and policies, pedagogical approaches or even practical matters" (p.xv). These differences are a necessary part of the diverse institutions in which we function, but the writing center community can produce scholarship that provides some point of departure from internally driven communication, infusing the rich history of qualitative research studies with quantitative projects that would be of interest to educational policy makers. In so doing, practitioners need not be concerned about rejecting our history as a non-traditional space within the institution; instead, we can combine important and significant data, both qualitative and quantitative, in order to provide another perspective on what writing centers do. Emphasizing Thom Hawkins' assertion that "if writing centers are to continue making substantial contributions [. . .] if they are to reach a productive and long-lasting maturity, they must do more than patch together fragments of successive theory," Hobson (1994, p.15) contends that the issue is more about how we "think about knowledge production" in writing center work.

To that end, this project offers two examples of writing center impact by examining the center's role in student success. What this analysis models is a methodology writing center directors can utilize in order to foster those conversations with administration and other stakeholders. By conducting quantitative studies using data most directors have on hand, directors can begin to gather materials with which to negotiate with administrators and situate their centers within mutual writing center and administrative goals for student engagement. What our study does not offer is analysis of the complexity of factors that define student retention. Instead, this work offers a methodology and sample data that does the double duty of the critical inquiry that Gardner and Ramsey (2005) argue is essential to writing center identity and the requisite assessment that articulates writing center value.

Student Engagement and Success

According to the Integrated Postsecondary Education Data System (IPEDS),[1] the Higher Education Act of 1965 mandates that all "institutions

[1] IPEDS is found on The National Center for Education Statistics (NCES) website (http://nces.ed.gov/) which "is the primary federal entity for collecting and analyzing data related to education"

that participate in federal student aid programs" collect and report data on a many factors related to students' engagement with the institution ("Integrated"). "Student Persistence and Success" data is reported in order to "track postsecondary student progress and success" ("Integrated"). Thus, each institution's Office of Institutional Research (OIR) collects data, annually, pertaining to "First-Year Retention Rates" and "Graduation Rates" ("Integrated"). In order to report their data, OIR defines a fall cohort each year; according to IPEDS, a fall cohort is defined as "all students who enter an institution as full-time, first-time degree or certificate-seeking undergraduate students during the fall term of a given year" (U.S. Department of Education, 2010, "Glossary"). Subsequently, each fall, OIR in participating institutions must make publically available the percentage of students from any given cohort who continues on to their second and subsequent years until graduation. Further, as inter-cohort graduation rates vary (i.e. not all students finish concurrently), OIR tracks rates for a given cohort in four, five, and six-year increments (see fig. 1).

Graduated/Still Enrolled - University Summary

		Graduated in			Continued to					
Cohort	Students	4 Years	5 Years	6 Years	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1991	383	6% (22)	22% (86)	34% (129)	68% (261)	56% (215)	49% (189)	39% (150)	23% (87)	10% (40)
1992	402	8% (31)	25% (99)	35% (139)	70% (282)	57% (231)	51% (206)	38% (153)	20% (82)	11% (45)
1993	440	10% (45)	26% (115)	35% (156)	70% (307)	55% (244)	51% (223)	38% (168)	18% (79)	9% (40)
1994	379	10% (38)	30% (112)	39% (149)	77% (290)	60% (229)	58% (219)	43% (163)	20% (74)	9% (36)
1995	354	11% (38)	31% (111)	42% (147)	73% (259)	64% (227)	56% (200)	42% (148)	18% (63)	8% (27)
1996	409	10% (39)	26% (108)	36% (149)	70% (286)	54% (222)	50% (206)	37% (150)	19% (77)	9% (36)
1997	396	9% (36)	32% (125)	44% (173)	73% (288)	61% (240)	53% (210)	43% (171)	20% (79)	6% (25)
1998	486	14% (67)	36% (173)	45% (217)	75% (366)	62% (299)	55% (268)	41% (201)	20% (96)	11% (55)
1999	537	13% (72)	36% (191)	44% (235)	72% (388)	62% (334)	58% (309)	40% (216)	16% (85)	8% (41)
2000	583	15% (86)	37% (213)	44% (256)	70% (411)	59% (345)	55% (319)	38% (219)	15% (86)	7% (39)
2001	592	14% (83)	33% (196)	44% (261)	74% (436)	61% (362)	57% (335)	40% (236)	19% (115)	8% (45)
2002	610	17% (102)	39% (236)	48% (290)	76% (462)	65% (394)	60% (364)	40% (246)	15% (94)	7% (40)
2003	774	17% (132)	39% (299)	48% (368)	76% (590)	65% (504)	60% (465)	41% (317)	17% (131)	9% (72)
2004	653	13% (84)	34% (221)		75% (492)	62% (408)	56% (365)	40% (262)	18% (118)	
2005	626	14% (87)			77% (480)	62% (386)	58% (362)	41% (259)		
2006	801				77% (616)	66% (530)	61% (486)			
2007	759				77% (588)	66% (502)				
2008	765				76% (578)					

Fig. 1. "Retention." *UAHuntsville Office of Institutional Research.* U. Alabama Huntsville, 1 July 2010. Web. 15 November 2010.

Student retention figures have, thus, increasingly become part of institutional culture in higher education. During the 1990's, dropout rates rose to an all-time high and graduation rates dropped significantly enough to draw national attention. In 1996, the first year the Writing Center in this study began collecting retention and persistence data, the Chronicle of Higher Education reported that 26.4% of college freshmen who enrolled in four-year colleges in fall 1996 did not return to school for the fall 1997 academic year (Reisburg, 1999). Kuh, Kinzie, Schuh, Whitt, & Associates (2005) *Student Success in College* offers the comprehensive results of national studies which consistently indicate that "the college graduation rate hovers around 50%" and that "nearly one out of five four-year institutions graduates fewer than one-third of its […] students within six years." Based on such startling statistics, in the fall of 1999 Rep. Chaka Fattah, a congressman from Pennsylvania, introduced a plan to address student retention and successfully earmarked $35 million to be spent on retention

programs (Dervarics & Roach, 2000), such as academic support services and freshman preparatory programs.

In order to block the growing exodus of students, universities began implementing social and academic programs to increase students' overall level of preparedness and satisfaction with the institution. Administrators like Betsy Barefoot, from the University of South Carolina's National Resource Center for the First-Year Experience, recognized that "there's more of a consumer mentality among students now, and less of a sense of institutional loyalty" (Reisberg, 1999, p.A54). In order to increase students' level of commitment, schools have increased resources, underscoring the assertion that "a degree of social and academic integration is necessary if students are to settle satisfactorily into the life of an institution and feel a sense of belonging" (McGivney, 1996, p.136).

Simpson's 1991 work "The Role of Writing Centers in Student Retention Programs" encourages the writing center community to investigate the larger issue of retention, carving a space for research into the ways in which writing centers provide important academic services. Thompson (2006) asserted that writing centers "determine how [their] activities contribute to the accomplishment of the mission of [the university]" and further suggested that her specific concern, like her institution's administration, focused on "increasing retention" (p.41). But her important delineation of several assessment methodologies did not include a direct measure of global student retention, which may be impossible due to the myriad of academic resources that offer opportunities for student engagement. However, since writing centers often compete for funds with other student services, the ability to demonstrate effectiveness becomes paramount to their survival within the institution.

Assessment Methodologies for Writing Center Administrators

Thus, we present two specific models for gathering and analyzing writing center data that directors have on hand to offer university administrators quantitative information regarding the way the writing center connects to university goals for student engagement. For the remainder of this paper, we present the methodologies and sample results from our own writing center assessment of a) the retention of a population of writing center participants compared to the retention statistics of the school's overall population; b) the graduation rates of a population of writing center participants compared to the graduation rates of the overall student population. We do not assert here that either of these studies demonstrates a direct correlation between retention, graduation and writing center participation; instead, these studies serve to illustrate methodologies through which writing center work can become part of meaningful dialogue concerning student success.

Study 1: Retention Data and Writing Center Participation

In Lerner's 2001 revision ("Choosing Beans") to his own quantitative study ("Counting Beans") he stresses the importance of "link[ing] writing center outcomes to […] college/university-wide goals"(p.1). Indeed, Lerner suggests turning to campus support in order to "share resources" and to "investigate the presence of the writing center as a factor in retention" (p 4). In our own research, the relationship between writing center

administrators and the OIR has been invaluable. It has been specifically useful to pay attention to our own OIR annual reports of cohort retention and graduation rates. Knowledge of these data offer an important addition to writing center administrators' understanding of the student population they serve, particularly for those directors who wish to broaden institutional connections to university administrators concerned with retention. As well, specifically useful for writing center data-gathering is the fact that the OIR has the capability of isolating particular segments of a given population. Thus, in regards to writing centers and retention, the most gross retention rate calculation possible would be to identify, from appointment records, all students who visited the WC for one fall period, request that the OIR isolate those writing center students as a separate and unique cohort from the institution's cohort with its own retention rate, and then compare the retention rates of the two groups. Although, obviously, not a measure of the multiple and complex factors implicated in student perseverance, comparative statistics of retention rates for writing center participants and non-participants offer a starting point for writing center assessment.

In this study, we conducted a data-driven retention project involving our population of "basic writers." For much of our writing center's history, one of our most consistent populations of students have been those conditionally-enrolled students who register in the English department's basic writing course. At our institution, students were placed in basic writing based on ACT or SAT scores. For better or worse, the mandatory attendance policy of the basic writing instructors has historically meant that these students were our most consistent writing center participants. Until very recently, as part of course instruction, students enrolled in the basic writing course have been expected to attend weekly 30-minute appointments with writing center consultants. As such, calculating the retention rates for this population helped to a) more comprehensively assess this particular center and the department's decision to require writing center attendance of the basic writing student population, and b) eliminate the self-motivation factor from our assessment; in other words, in this specific case, the study would not have to factor in the concern that the students who visit the writing center and were retained were self-motivated and would have been retained regardless.

This project is divided into three stages. First, the study identified and categorized the level of participation of the experimental group of students enrolled in basic writing courses. Next, within this particular group, retention rates of students in each of four attendance categories were compared to determine whether or not regular writing center participation impacted the retention rates of these historically at-risk students. Although the basic writing course description "required" writing center attendance, students themselves were responsible for making and keeping their appointments. Therefore, this study additionally factors student attendance as a variable that potentially impacted their success and persistence at this institution. By using attendance as a variable, the study evaluates fall-to-fall retention rates based on an additional factor: student commitment to the services of the writing center. Finally, using data generated by the OIR, results of the writing center study were compared with institutionally generated university retention figures, from which OIR removed data pertaining to the experimental group.

In order to evaluate the commitment of students enrolled in basic writing, their attendance records in the writing center were examined and then categorized into four distinct levels of participation (see Table 1). Since the number of weeks the center remained opened each semester varied based on the academic calendar, researchers calculated student attendance based on the number of appointments each student made and attended divided by the number of weeks available during the semester, arriving at an attendance percentage for each student in the experimental group. For example, students categorized as full participants made and kept 80% or more of the possible weekly visits during the semester in which they were enrolled in basic writing. Additionally, these attendance categories offer insight into the level of student engagement with the Writing Center environment and provided a basis for comparison within the identified experimental group.

Table 1

Participation Categories

Participation Categories	**Attendance Rates (based on weekly visits available)**
Full Participants	80% to 100%
Frequent Participants	60% to 80%
Partial Participants	40%-60%
Marginal Participants	Below 40%
Non Participants	No visits

The hypothesis was that students classified as full and frequent participants would have a higher fall-to-fall retention rate than those students identified as partial or marginal participants. In order to study retention rates within the experimental group, retention rates within each of the identified categories for each year of the study were compared by calculating the percentage of students returning to the institution one year after enrolling in basic writing.[2] For example, the study compared the fall-to-fall retention rate for students categorized as full participants with students in each of the other attendance categories. The comparison isolated writing center attendance as a component of student retention for students enrolled in the basic writing course. Table 2 displays participant retention rates for 2006 and 2007.

Table 2

Participant Retention Data by Category

Student Categories	**2006-2007 Retention**	**2007-2008 Retention**
Full Participants	22 of 26	34 of 43
Frequent Participants	8 of 10	1 of 1
Partial Participants	1 of 5	3 of 6
Marginal Participants	1 of 3	3 of 3

[2] We have gathered retention data for the years 1996-2000 and 2005-2008.

Next, retention data for basic writing students in each of the participation categories were compared with the overall retention figures generated by the OIR for first time, full time, degree seeking students, excluding those in our experimental group (see Table 3). Comparing retention percentages across each category of participation to the student population studied by the OIR identified the convergence of retention statistics between the basic writing cohort and the institutional cohort. In other words, researchers now knew the retention rates of the basic writing students based on attendance levels as well as the overall cohort retention rates, allowing for comparison across categories and through multiple years to identify and compare retention and persistence trends, which also provided a baseline for future strategic planning. For example, based on research from two years of the project, students who completed the basic writing course in Fall 2006 and were categorized as full participants in writing center instruction based on attendance information were retained as students in Fall 2007 at a rate higher than the overall first-year cohort during the same time. Similarly, the same statistics demonstrated continued success for students the following year.

Table 3

	Student Categories				
	Institutional	**Full Participants**	**Frequent Participants**	**Partial Participants**	**Marginal Participants**
2006-2007 Retention	77%	85%	80%	20%	33%
2007-2008 Retention	77%	79%	100%	50%	100%

In the writing center studied here, retention data successfully identified ways in which we could communicate effectively within the larger academic community. As the above chart demonstrates, our "Full Participants" far exceeded institutional expectations for retention. Productively, this research allowed our administrators to better assess the relationship between writing center attendance and university perseverance. Significantly, students who regularly participated in writing center instruction persisted at a much higher rate than those who did not within the same population of students, providing justification for encouraging writing center attendance as one means of institutional engagement. Further, analyzing the preceding charts allowed for investigation into retention trends of the basic writing students compared to the overall cohort. First, by analyzing yearly statistics, the study provided a means through which administrators could understand more fully which students persisted. Also, comparing participation rates by attendance category helped to identify how many students utilized the writing center during each semester. By comparing the student usage for each of the ten years in which data was kept, administrators better understood how usage and retention trends shifted over time, which enabled those administrators, along with other stakeholders, to consider particular pedagogical strategies and innovations may have impacted those changes. Finally, identifying overall cohort retention figures for the entire period helped broaden the scope of our inquiry to try to understand the long-range implications of writing center attendance for groups of students.

Study 2: Graduation Rate Data and Writing Center Participation

The second productive measure of writing centers contribution to student engagement and success can be mined by analyzing graduation statistics. Again, for this study, researchers simply requested information from the OIR; specifically, researchers requested graduation information (for example, "did or did not" graduate for the group of basic writers who visited our writing center in fall of their 2005 freshmen year. The study then compared the graduation rates of the experimental students to the institutional graduation rates of their broader cohort by using methodologies similar to the retention study discussed previously.

A good example of this study is demonstrated by looking at the 2005 cohort of basic writing participants. For this particular cohort the study utilized published graduation rates of four and five years from OIR. Again, the study relied on OIR for the necessary data needed. Researchers sent them a list of the 2005 basic writing/writing center participants and asked that they report the graduation data on those particular students. The study then compared that data to published university graduation rates (see Table 4).

Table 4

Graduated In	Institutional Cohort Totals	Total Basic Writers and Center Participants	Full/Frequent Writing Center Participation
4 years	14%	5%	6%
5 years	36%	20%	25%

That only 20% of basic writing participants persisted to graduation compared to 36% of their peers was certainly a disappointing result. Indeed, our findings demonstrated that, overall basic writing participants persisted at a lower rate than their institutional peers. But, as directors of the writing center, a service whose mission (in part) is to support underprepared writers, we found it immensely instructive to learn about writing center participants' academic progress post-writing center experience. Indeed, it can be argued that vital graduation data helps directors utilize results to shape a dynamic writing center's pedagogy.

When analyzing the data even further, by looking, as had been done earlier in our retention study, at the Writing Center cohort's rates of participation, more heartening information was found. Of the Fall 2005 basic writing students labeled as "full" or "frequent" participants, a total of 9 of 44 students, 6% had earned degrees from the institution within four years, compared to the 5% of graduation rate of basic writing participants. Furthermore, 25% of those participants had earned degrees within five years compared to the 20% rate of total basic writing participants. Although only marginally higher than their fellow basic writers, what was most interesting was that all of the nine total participants who graduated were either full or frequent participants. This means these participants, who engaged most often with the writing center, did fare better than the rest of their basic writing cohort who did not participate regularly in writing center support.

These data reported here are limited in scope. It is obviously impossible, using simple participation rates and persistence, to argue a definitive correlation. But, these findings comport with a US Congressional report, which found that "at-risk students who receive targeted academic support services persist to degree completion at higher rates than at-risk students who do not receive such services" (Devarics & Roach, 2000, p. 24). Likewise, a study on institutional environment determined that those schools with a strong emphasis in active student involvement, including writing activities and peer interaction, have a higher rate of student satisfaction (Ethington, 2000). Underprepared students, such as those in this study, seem most likely to benefit from these institutional support systems. McGivney (1996) explains that "the progress and well-being of [. . .] 'non-traditional' groups of students largely depend on the amount of support they receive in an institution" (p.136). She asserted an important issue to keep in mind is that a commitment to student retention includes "personal and academic support for learners, especially those who differ from the majority of the student body by virtue of age, race, qualification, disability or learning mode" (p.136).

The significant link between regular and ongoing involvement of students over time proves to be an important factor in student persistence. Students must be encouraged to be consistent, active participants in support services such as writing center work in order to benefit from them. Through regular engagement in writing center instruction, students not only see academic improvement and satisfaction, they begin to develop a social bond with the institution. Writing center practitioners have an experiential understanding of the importance of developing and sustaining such academic and social connections, but finding ways to identify and evaluate that contribution remains an important task, both within the writing center community and the larger institution. This project serves as a stepping off point for others who may wish to investigate ways to quantitatively document writing and learning center work. Failing to develop and implement programmatic assessment inevitably insures that outside sources will impose their own, leaving us little voice in the matter.

A Final Note

This study began with a simple but perhaps impossible question from well-meaning practitioners: Does the writing center help students remain at the university? That question proved to be a crucial first step in a series of inquiries that, rather than providing a definitive answer, instead and perhaps more importantly, reshaped the way this particular center collected and analyzed data. Complex questions began driving the need for further analysis. For example, does the data collected in the writing center provide the information necessary to support our research agenda? What ways can data be viewed that will provide insight into the center's success within the institution? Finally, and perhaps most importantly, how do reporting strategies communicate results that demonstrate a comprehensive view of the center's role within the institution from a variety of perspectives? One of the most important contributions this project makes to the discipline is that it provides a potential methodology and context for self-evaluation, which can significantly shift the way the writing center community thinks about what they do and how work is documented.

By learning to think more quantitatively, we have experienced inevitable revision to our perspective as directors. By strengthening the empirical evaluation of the Writing Center's administrative systems, our staff has learned to think within a quantitative system and thus recognize important trends that otherwise might have been overlooked.

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Nursing Students' Awareness and Intentional Maximization of their Learning Styles

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Abstract

This small, descriptive, pilot study addressed survey data from four levels of nursing students who had been taught to maximize their learning styles in a first-semester freshman success skills course. Bandura's Agency Theory supports the design. The hypothesis was that without reinforcing instruction, the students' recall and application of that knowledge would decrease as they progressed through the program. The hypothesis was not supported: the highest indicator for intentional application of personal learning style preference was the most frequent choice at every level of the program. Learning assistance professionals have unique opportunities to teach and reinforce students' academic success strategies. This study's outcomes support that effort in that the participants who were taught learning style strategies believed they retained and applied the information throughout all levels of their degree programs.

One of the foundational assumptions of academic assessment is that students will be able to commit new information to memory then recall it when retrieval is desired or required. The skills and strategies to become an effective learner are learned behaviors, committed to memory and retrieved as needed in much the same manner that factual content is. Many institutions of higher learning give credence to that belief with freshman year experience courses, which they believe will prepare the students for academic success through future years of enrollment. But memories fade with time—a process referred to as decay, and information acquired but not used is at especially high risk for memory decay (Simon, Donoso, Foutz, Lasorsa & Oliver, 2011). Content is often assessed in college settings, but the ability to remember and retrieve academic skills that were taught is often assumed, and only considered deficient based on secondary outcomes—subsequent unsatisfactory grades, failure, or voluntary attrition. This study examined students' recollection and application of academic skills related to their learning styles.

Hundreds of dissertations, research articles and at least one meta-analysis have been published addressing the issue of teaching to students'

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learning styles (McNeal & Dwyer, 1999; Beck, 2001; Lovelace, 2005). This study contributed to the literature with a metacognitive approach to elicit the subjects' own perceptions of retaining learning style self-knowledge and intentionality in applying it at specific intervals after being taught how to identify and maximize their own preferences. The subjects surveyed were students still enrolled in a nursing program one, three, five and seven semesters after receiving learning styles instruction. The purpose of this study was to determine if a correlation existed between (1) students' academic level as they moved through the program, and (2) the degree to which these students intentionally considered and maximized their own learning style preferences.

Literature Review

At least since the times of the ancient Greeks, educators have observed that different students appeared to learn in different ways. Modern era psychologists and educators have differed on how to define learning-specific terminology, using terms such as *learning style, learning preference, personality type, personality trait, multiple intelligences, etc.,* with some overlap and even some contention, not only about the definitions, but about the relevance of the factors. Teaching, assessing, and interpreting the outcomes of students' individual learning styles and how—or if—they intentionally utilize the learning styles in their academic pursuits assumes that the student may possess a degree of ability and willingness to learn and apply them. Albert Bandura (2006) articulated Agency Theory to describe and explain individual intentionality.

Prominent Contributors to Learning Theory

A widely-accepted viewpoint linked the articulation of formal learning theory with psychology, and traced its beginnings to renown psychiatrist Carl Jung's theories of personality types that were first published in 1921 (Silver, 1997; Furnham, Moutafi, & Paltiel, 2005). Jung identified four basic personality types in two contrasting sets: thinking, feeling, sensation and intuition (Mills, 2006) and his work was foundational for some of the most prominent future learning theorists and researchers, as well as psychologists (Myers & Briggs Foundation, n.d.).

From the 1970s onward, interest has increased in expanding awareness and application of learning style assessment. Beginning in 1972, and continuing for more than three decades, the educator/researcher team of Drs. Kenneth and Rita Dunn (and Rita Dunn individually) developed and tested tools for determining individuals' learning styles within a framework of strands or domains (Learning Styles: Official Dunn & Dunn Online Assessments, Surveys & Community, 2010; Schaughnessy, 1998; Lovelace, 2005). The research team based their theories on an exhaustive historical review of learning differences. Rita Dunn, as director of the Center for the Study of Learning and Teaching Styles at St. John's University in Jamaica, NY, addressed significant research and publication to college students' learning styles (Brand, Dunn & Greb, 2002; Dunn, Denig & Lovelace, 2001; Morton-Rias, Dunn, Terregrossa, Geisert, Mangione, Ortiz & Honigsfeld, 2008). Dunn & Griggs also edited a collection of essays written by learning styles practitioners entitled, *Practical Approaches to Using Learning Styles*

in Higher Education that was published in 2000. The official web site of the Dunn and Dunn learning styles theory and research reported that "850+ doctoral studies proving the effectiveness of our model, make it the most thoroughly tested learning styles system of all time" (Learning Styles: Official Dunn & Dunn Online Assessments, Surveys & Community, 2010). Clearly, many educational researchers are interested in learning styles.

Lovelace (2005) performed a quantitative meta-analysis of all the experimental research conducted on applications of the Dunn and Dunn instruments published between 1980 and 2000. Her purpose was to assess the overall effectiveness of the models and to identify and consider the moderating variables. The method was a comprehensive literature search of books, articles and dissertations describing experimental studies with specific variables and cohorts of a minimum size. Of the nearly 700 articles based on Dunn and Dunn theory and instruments, she found 76 that met all of her limiting criteria. She discriminated for moderating variables that affected the effect sizes, and used multiple statistical analyses to calculate effect sizes for achievement, attitudes and behaviors. On the basis of her study, Lovelace concluded that "learning style instruction might be expected to increase student achievement by 25 to 30 percentile points" (p. 179).

Beck (2001) used Dunn instruments and three other instruments developed in the 1980s and 1990s to develop a comprehensive taxonomy of teaching strategies relative to learning styles. One of Beck's stated purposes was "to convince teachers that they have a responsibility to practice a wide variety of teaching strategies to meet the diverse learning styles of their students and to encourage students to expand their learning style preferences" (p.1). Lovelace and Beck's studies support the validity of teaching students about their learning styles and support the investigation described in the present study.

Throughout the final quarter of the 20th century, others explored the assessment of the ways people think and learn, and refining and differentiating between the definitions of terms. In 1977 and 1997, Lemire published the Ego Inventory Instrument to identify "style types as opposed to personality traits" (Lemire & Gray, 2003, p. 233). In 1982, the Gregorc Style Delineator was introduced. Like the Myers-Briggs instruments, it also identified style types based on four combinations of traits: Concrete Sequential (CS), Abstract Sequential (AS), Abstract Random (AR) and Concrete Random (CR) (Gregorc Style Delineator™, n.d.), and continues in use today.

In 1983, Howard Gardner introduced his theory of Multiple Intelligences, one of the outcomes of the Harvard Project Zero, "a critique of the notion that there exists but a single human intelligence that can be adequately assessed by standard psychometric instruments" (Gardner, 2005, p. 13). Dunn, Denig, and Lovelace (2001), noted Gardner's own observation of the lack of empirical evidence for his theory and attempted clarification by comparing multiple intelligences and learning styles.

Kolb's experiential model was introduced in 1984 and Fleming and Mills' sense-based model in 1992. The Kiersey Temperament Model was introduced in 1998, and was groundbreaking in that it viewed an individual's temperament as being an inborn trait of that individual, which has significant

implications for educators, who are always oriented to change.

In the 1980s, the team of Isabel Briggs Myers and her mother, Katherine Cook Briggs, with the goal of making Jung's personality theory practical, developed the Myers-Briggs Type Indicator © (MBTI). Rather than limiting themselves to Jung's three personality types, their assessment tool contained four contrasting indices of preferences: Extraversion-Introversion, Sensing-Intuition, Thinking-Feeling, and Judgment-Perception, resulting in a grid of 16 possible types (CAPT, n.d.). The MBTI instrument has been extensively utilized in a wide variety of contexts in addition to education—business, industry and medicine (Myers & Briggs Foundation, n.d.), and research continues to support the existence of the types.

Combined Teaching and Learning Assessment

In 2001, Zhang published a study in which subjects included teachers and students, not one exclusive of the other. Reflecting the differences in terminology that had characterized learning research, it differentiated between students' *learning approaches* and *learning styles*, and between instructors' *teaching styles* and *thinking styles*. Zhang stated in his conclusion that his study made two contributions to the literature: it verified that there is a relationship between an instructor's learning style and teaching style; and also that both are context-dependent. He tacitly acknowledged that the additional correlations should be addressed in a future study. The Zhang study was a model for limiting foundational learning style research to a basic question of existence of factors, rather than correlations between them, such as was done in the study being reported.

Contrasting Viewpoints

Although the evidence might appear to be overwhelming that learning styles, modalities, or preferences exist and can be identified and maximized, and that students' achievement is higher when their instructors intentionally accommodate learning styles, a few educators discounted the value of learning style accommodation by teachers (Stellwagen, 2001; Olson, 2006), and a few others supported the concept only conditionally (Forrest, 2004; McNeal & Dwyer, 1999). Lovelace, however, after completing her meta-analysis of studies utilizing the work of Dunn and Dunn, was unequivocal. In an interesting conclusion to her Discussion section, she likened educators to medical practitioners. A doctor or a nurse who knowingly withheld a needed treatment that had been proven successful, to the patient's detriment, could be charged with unethical practice. Lovelace stated that the research supporting the benefits of acknowledging different learning styles is so overwhelming that not considering and addressing learning styles in one's teaching is also unethical practice (Lovelace, 2005). In 2007, however, Kavale & LeFever published a rebuttal of Lovelace's findings, criticizing her "interpretation of effect size, narrow focus on a single model, missing information, and, most notably, a sampling bias," (p. 94). They continued, "The proponents of the [Dunn model] must address such concerns before the [Dunn model] can be accepted by the education community" (p. 94). The debate about learning styles continues.

Agency Theory

A theoretical basis for examining students' metacognitive activity was Bandura's Agency Theory. While conducting research on his Social Cognitive Theory, noted 20th century psychologist Albert Bandura observed research subjects who had successfully learned to regulate a phobic negative response. They were willing and able to subsequently try addressing other stressors that had previously elicited negative responses (Pajares, 2004). Their thought (cognition) led to a decision to act (agency), and they were able to do it (efficacy). That sequence was the foundation for Bandura's Agency Theory and parallels the process examined in this study.

Personal Agency

In articulating agency theory, Bandura stated, "To be an agent is to influence intentionally one's functioning and life circumstances" (2006, p. 164). In another resource, Bandura ended his definition of the same term with "environmental events," rather than "life circumstances"(Bandura, 2008, p. 87). "Broadly speaking, *agency* is the capability of individual human beings to make choices and to act on these choices in ways that make a difference in their lives" (Martin, 2004, p. 135). Bandura chose to examine the idea of agency in terms of interactions at various distances from the self. He differentiated between three modes of agency: (1) personal agency, which is carried out by an individual; (2) proxy agency, in which the individual uses personal influence to motivate others to initiate action that benefits them; and (3) collective agency, in which people form groups in order to reach a mutual goal (Bandura, 2002). Bandura believed that the personal agency is the most significant type of agency, and that the most important factor in personal agency is *personal efficacy*, which is also referred to in the literature as *self-efficacy*. Learning and applying one's metacognitive awareness reflects personal agency in intentionality, and self-efficacy in motivation.

Core Properties of Agency

Bandura identified specific core properties of agency: (1) intentionality, (2) forethought, (3) self-reactiveness, and (4) self-reflectiveness (Bandura, 2006, 2008). Individuals plan actions with the *intention* of affecting change. Bandura referred to forethought as "the temporal extension of agency" and "anticipatory self-guidance" (2006, p. 164). Forethought gives intentionality direction. Self-reactiveness is the ability factor: having what is required to turn the intentions into actions. Self-reflectiveness is metacognitive ability to remember and interpret. The individual's reflective conclusions are then used as the basis for judging those actions and for planning future actions based on those judgments. The core properties of Agency theory have particular relevance to the study of learning style application by students.

Method

Based on the vast number of studies which have been published addressing students' learning styles, this study assumed the validity of learning style theory. Because the goal was only to address students' perceptions, not quantitative course outcomes, a metacognitive approach based on a survey was utilized.

Background of the Study

A group of faculty and professional staff at a small Midwestern college of nursing requested and was awarded a grant to design and implement an academic intervention course in academic years 1995-96 and 1996-97. As a result of the outcomes, a success skills course was designed for the freshman level in the program. The one-semester-hour, for-credit course was taught by the college's learning assistance professional for 10 successive fall semesters, through fall of 2007, after which the course was moved to the sophomore level.

Each fall, the first-year students were taught basic learning style theory and were assigned related reading. They self-identified their dominant thinking preferences and learning style dominances via several metacognitive assessments, and they held a one-to-one meeting with the instructor to discuss the academic and learning style preference results of the Nurse Entrance Test©, the most comprehensive of the assessments. The instructor/researcher tallied the responses and throughout the course, tailored the teaching modes to the class dominances and consistently, intensively, taught and encouraged metacognitive activities relative to learning styles. Throughout the course, the students were provided with a variety of specifically-planned experiences aimed at teaching them to increase their awareness of their own thinking and learning style dominances, maximize their preferences, and adapt when information was presented in their less-preferred learning styles.

Years of informal tracking indicated that students who took the class were more academically successful than those who did not, but no formal assessment had ever been done to see if students who took the class still intentionally applied the learning style strategies as they continued through four years of the baccalaureate nursing program. This research study addressed the question, "Is there a correlation between the degree to which students recall and apply learning styles information and the amount of time since they were taught to recognize and maximize their own learning styles?"

The time addressed was the year of enrollment in the program. The survey was administered in the spring semester; therefore, participants were one, three, five and seven semesters post-instruction about learning styles. The study hypothesis was that the greater the time lapse between the semester the learning styles content was taught and the survey, the less mindful application of learning styles self- knowledge there would be, indicating a lesser degree of metacognitive activity.

Site

This study was conducted in a small, fully-accredited, single-purpose college of nursing affiliated with a regional medical center. The site was located in a city of approximately 40,000 in the rural Midwest.

Sample

A convenience sample was utilized. The sample consisted of all students who had completed the success skills course as a first-semester student in the baccalaureate nursing program and were still enrolled in the college in

the spring semester of the year of the study as a freshman, sophomore, junior or senior nursing student.

The enrollment at the site college at the time of the study was approximately 150. The enrollment included advanced placement students in several "tracks," such as L.P.N. to B.S.N., A.D.N. to B.S.N., etc., as well as students from two partner institutions. None of the advanced placement students or students from one of the partner colleges were required to take the freshman course that included the learning styles content; therefore, only 52 students were enrolled who had taken the course in which the learning style instruction was given, and therefore eligible to participate in the study. All but one of the 52 signed the informed consent and participated, a 98% participation rate.

Design

The research design for the small pilot study was descriptive and correlational. A survey was administered to all subjects in the sample and the data were analyzed with descriptive statistical applications by level and by response. It included correlational data analysis to identify and describe any correlation between the reported level of recollection/application (Statement Q6) and the subject's current level in the nursing program (Statement Q7). The researcher hypothesized that a negative correlation would exist between the subjects' reported recollection/application of learning style information taught in the freshman success skills course and the subjects' levels in the program at the time of the survey: that is, the higher the level in the program, the lower the recollection/application of the strategies learned the first semester of the freshman year would be. Data retrieved from statements other than Q6 and Q7 were considered informational and not directly related to this analysis.

The research site required all formal research involving human subjects to receive approval of an Institutional Review Board (IRB). The research design was formalized, submitted to the IRB process, and received approval. The IRB review included the consent form and the assessment tool.

Instrument

A ten-question Likert scale survey was developed by an associate faculty member of the college and peer-reviewed by members of the Institutional Review Board. Page 1 was the informed consent document entitled "Research Survey," and page 2, printed on the reverse side of the paper, was the actual survey, entitled "Learning and Teaching Styles Survey." (See Appendix A: Research Survey and Learning and Teaching Styles Survey). The instrument made statements about five specific personal learning/thinking characteristics that had been identified, assessed, and emphasized throughout the freshman success skills course: three learning style preferences (visual, auditory, kinesthetic), and two hemispheric thought dominances (right brain, left brain) and asked participants to indicate level of agreement.

The second set of five statements on the survey consisted of two statements about the student's perception of competency in applying his/her own learning and thinking styles/preferences, and three statements

about the students' preferred teaching style. Including these statements of self-perception is consistent with the agency aspect of Bandura's Social Cognitive Theory. Personal agency includes intentionality and forethought about what one can do (Bandura, 2002), both characteristics of one who is learning and continually applying a discrete body of knowledge. The means of response was designed as a Likert scale from 0 to 5, with 0 being "Don't Know," 1 being "Strongly Disagree," and 5 being "Strongly Agree". The higher number would be the more positive the response. One of the two independent variables, assessed by statement Q7, was the level in the baccalaureate nursing program.

In this small college, the nursing faculty (as well as the researcher) was interested in knowing if their students were applying the instruction they had received in the success skills course. Each student in the sample was sent a copy of the survey via email, with several options for returning it. When the return rate was low, the nursing faculty at all four levels in the nursing program invited the researcher to personally present the opportunity to participate at a designated time in their classes. Following the brief presentations, consent forms and 51 valid surveys were completed and returned: two online and the remainder hard copies. The cohort of subjects was comprised of 29 first year/freshman Nursing majors, 11 sophomore Nursing majors, eight junior Nursing majors, and three senior Nursing majors.

Interpretations Summary

A positive correlation between length of time and application of the information would mean that as time passed (increased) after the instruction, the students' recollection and application would also increase. Based on theory and research on forgetting, that would not be the expected finding. Memory/forgetting theory asserts that as new information is learned, previously-learned information that is not reinforced can be displaced from short term memory. An additional risk is retrieval failure, in which no cue presents that will trigger retrieving the learning style knowledge when it is needed at a later time (Simon, Donose, Foutz, Lasorsa, & Oliver, 2011).

A finding of no correlation between time and recollection and a negative indication of use of learning style knowledge would indicate the students were not benefiting from the instruction, which would be a curricular issue for the College to address. A finding of no correlation between the time and recollection variables in this study, but a positive indication of use, could indicate that the students were maximizing their knowledge without ongoing external reinforcement or cues to recall and apply the metacognitive skills relative to learning style. State (internal) dependent cues would result from continually retrieving and applying the skill. Metacognitively applying learning style adaptations would have become its own cue, thereby, continually reinforcing the memory. From the educator's viewpoint, that would be the desired outcome: initial, appropriate teaching/learning would be so effective that long-term retention would be supported through voluntary repetition.

A negative correlation between time lapse and application would mean that as time passed (increased) after the instruction, the students' recall and application would decrease. That would be the expected finding, based on theory and research on forgetting, reinforcement and recall (Loftus, 1985). The implication of finding a negative correlation—forgetting—would be that

learning styles instruction needs to be repeated periodically throughout a student's academic experience in order to be recalled and utilized.

Results

The hypothesis that students would recall and apply learning style knowledge less and less as they moved through the nursing program was not sustained. The responses to the statement, "I try to use study strategies that match my learning style," remained high throughout all four levels of the four-year nursing program. There was no statistical correlation between the level in the program and the degree to which student reported that they intentionally applied learning styles information to their learning: all reported applying it at a high level.

A Cumulative Frequency Display determined that of the entire cohort, 96.1% of all the students responded at 3.0 or higher on Statement 6 (Q6): "I try to use study strategies that match my learning style" There were no responses of 0 (Don't know) or 1 (Strongly disagree) at any class level.

Table 1. Cumulative Frequency Display for Responses to Q6

Responses on Likert Scale	Frequency	Percent	Valid Percent	Cumulative Percent
0	0	0	0	0
.5	0	0	0	0
1	0	0	0	0
1.5	0	0	0	0
2	2	3.9	3.9	3.9
3	8	15.7	15.7	19.6
3.5	2	3.9	3.9	23.5
4	14	27.5	27.5	51.0
4.5	4	7.8	7.8	58.8
5	21	41.2	41.2	100
Totals	51	100.0	100.0	

The researcher utilized a Stem and Leaf Display to identify that the median score for the entire cohort was 4, and the mean was 3.94. An SPSS statistical analysis indicated a mean on Q6 of 4.1961 (on a 5-point scale), with a standard deviation of .8549. The range (5-2) was 3. (See Table 2).

Table 2. Stem and Leaf Display

Responses on Likert Scale	Number of Responses to Question 6: "I try to use study strategies that match my learning style."
1.5-2	22
2.5-3	33333333
3.5-4	3344444444444444
4.5-5	44445555555555555555555

5= Strongly Agree 1= Strongly Disagree 0= Don't Know

Levels 1 (Nursing interest) and 2 (freshmen) were combined for this analysis because they were both first-year students, in the same nursing classes together, and, therefore, equally removed in time from the learning styles instruction. The mean for Statement 6, "I try to use study strategies that match my learning style," for Combined Level 1 and 2 (Nursing interest and freshmen) was 4.22; for Level 3 (sophomores) 3.95; for Level 4 (juniors) 4.00; and for seniors, 4.67. An SPSS Crosstabulation demonstrated that the most frequently-selected response was 5 at all levels, although at Level 4 (juniors), answers of 3 and 5 were chosen with equal frequency (See Table

Table 3. Q6 Response and Program Level Cross Tabulation

Response to Q6: "I try to match my learning style to what I am studying." ↓	**Nursing Interest and Freshmen** (n=29)	**Sophomores** (n=11)	**Juniors** (n=8)	**Seniors** (n=3)	**Totals** (n=51)
2.0	0	2	0	0	2
2.5	0	0	0	0	0
3.0	4	1	3	0	8
3.5	2	0	0	0	2
4.0	8	3	2	1	14
4.5	3	1	0	0	4
5.0	12	4	3	2	21
% of Class responding at 3 or higher	100%	82%	100%	100%	100%

The hypothesis that the nursing students in this study would be less and less mindful of their learning style and intentionally apply it less and less as they continued through the program was not supported by the results of the study. The class mean of awareness and application decreased only slightly from the freshman to the sophomore year, then increased again the

junior and senior years. Throughout all four years, response 5, "Strongly Agree," was the most frequent response to Statement 6: "I try to use study strategies that match my learning style," although at the junior level, an equal number of option 3 was selected. At the nursing interest/freshman, junior and senior levels, 100% of the subjects responded with at least a score of 3 to Statement 6. All but two of the students (3.1%) who were succeeding at a level high enough to remain in the program believed they were consciously aware of and using the learning style knowledge they gained the first semester of their freshman year at a rate of 3 or higher on the 0-5 Likert scale.

Discussion

This small research study of a discrete population addressed the question, "Is there a correlation between the degree to which students recall and apply learning styles information and the amount of time since they were taught to recognize and maximize their own learning styles?" Forgetting theory suggests that there would be a negative correlation, the longer the time post-instruction, the less retention and application there would be. The results indicated that there is no correlation: students who had been taught to identify and apply learning styles information believed they retained the knowledge and intentionally applied it at a high level throughout their college experience, demonstrating a high level of self-efficacy.

Limitations

A significant limitation of this study was that all data were subjectively reported by the subjects. Replication studies would be needed to establish the external reliability of their responses, and quantitative correlations would help establish the meaningfulness of the responses, i.e., even if they did recall and use the information, did it help?

The sample for this study was small: n=51. The study was conducted with a convenience sample because (1) every eligible student in the college comprised the population, so it could not be enlarged at this site, (2) only that specific cohort had all received the same instruction in the same class from the same faculty, and (3) the lean design eliminated most extraneous variables and provided the opportunity to support evidence-based practice. Larger samples would provide more robust data, but would necessitate using a different site and a different population. Many of the recommendations for future research that follow correspond to the possible limitations of this study.

This study's research design included the Spearman's *r* statistical analysis to see if higher intentional use of the learning styles knowledge correlated with higher grades. Since the mean scores for all classes were high and showed no arithmetic variance from one to another, that statistical analysis was not run. With a larger sample, more robust statistics could be run.

Implications

This small, pilot study of a targeted sample achieved its goal of determining the degree to which four cohorts of nursing students believed they recalled and maximized their own learning style preferences after

receiving instruction while first-semester students. It has significance because it reflects the students' own perceptions, which inform self-efficacy, which is a construct of sufficient importance to pursue as academic support apart from immediate quantitative grades outcomes. It also has implications for the role of learning assistance professionals in providing learning styles information and assessment to students.

Instruction

Learning assistance professionals often fulfill the role of instructor of success skills in higher education settings in classes, workshops and individual interactions. Adequate research exists to support the benefits of teaching students about learning style preferences to legitimately consider learning style awareness a success skill. For some students, that interaction may be their only opportunity to learn to assess and address their own strengths and challenges relative to learning style preferences, strengths and challenges. Learning assistance professionals who are knowledgeable about assessment and maximization of personal learning style preferences can provide assessment tools, instruction, and reinforcement, both initially and on an ongoing basis, to students who may not have any other means of access to it.

Learning styles information could be a valuable complement to tutoring skills. A tutor who can quickly assess and determine that the client with whom s/he is meeting is very dominantly visual would present information differently from how s/he would present it to a client who is very dominantly auditory. Diagramming a sentence structure for a dominantly visual second language student instead of just explaining it verbally could make the difference between effectively communicating a much-needed clarification, and not successfully communicating it at all.

This small study was exploratory in that was extremely limited, and its results can be used to contribute to hypotheses for future research efforts. Although a significant body of literature supported the premise that the instructor's accommodation to students' learning styles resulted in higher achievement, additional correlational research needs to be done to determine if students' intentional application *apart from the faculty awareness and adaptation*, results in higher achievement.

Self-efficacy

Prominent self-efficacy theorist, Albert Bandura, relied on much subjective data in his extensive, multi-decade research supporting social cognitive theory, agency and self-efficacy (Bandura, 2002). Comparing quantitative evidence of various academic outcomes is a needed next step in the research. A next logical question to address is if there is statistical correlation between thinking one is using the strategy, using the strategy, and benefiting from the strategy.

A recent IRB-approved formal study of nursing students who were and were not taught a specific success strategy included a self-efficacy component as well as a statistical analysis of their test grades. Students in the experimental group who learned the success strategy earned higher test scores at a rate that was statistically significant, and also scored higher

on the post-intervention self-efficacy survey with a difference that was statistically significant (Mayfield, 2010). In future learning style studies, determining if learning style self-awareness contributed to the students' self-efficacy would be desirable information, particularly if it were a small study in which the raw scores on the academic factor were homogeneous. Numerous instruments assessing self-efficacy have been developed and tested. One such instrument available to researchers is the General Self-Efficacy Scale (GSE) (Jerusalem & Schwarzer, 1979). It has been used for more than three decades, in more than 20 countries and languages, and subjected to numerous validity and reliability studies. The GSE would be an accessible and efficient tool for future studies.

If two variables were studied, such as self-efficacy and grades, and only self-efficacy presented a strong difference between the groups, that may still be adequate evidence to support an intervention based on only that variable. Numerous studies indicated a strong relationship between self-efficacy and academic success, so providing a metacognitive skills set might result in higher present self-efficacy and higher future grades, even if that variable is not different at the present time. A single assessment gives data, but a correlational assessment composed of two dependent variables would produce stronger results, and longitudinal studies of the same students would provide even stronger data.

A study designed to compare scores on the perceived maximization of one's own learning style and grades earned in general education courses and courses in the major would provide valuable data. A study designed to survey students who had dropped out or been dismissed from the program and compare their responses to the scores of students who had been successful and remained in the program, would provide the data needed to assess the potential for correlation between program success and application of learning style knowledge. A study comparing outcomes based on the way the student learned about learning styles—in class, online, from a tutor, etc., would also provide evidence upon which to base future directions for the objectives of learning center personnel relative to their clients and the training provided for tutors.

Conclusion

This small, focused, pilot study indicated that subjects who had learned how to self-assess and maximize their learning style preferences believed they retained and applied the information with intentionality throughout their four-year college program. Although counter to expectations based on memory/forgetting theories, Bandura's Agency Theory supports the findings. Future studies designed with a more robust statistical application, a correlation between responses and grades, a self-efficacy pre- and post-intervention assessment, and a larger sample, would give additional basis for valid comparison and provide the means for establishing the reliability and validity of the instrument. At this point, the results of this study are a promising step.

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Appendix A

Research Survey©

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Approval: This research proposal was formally submitted and has received the approval of the Internal Review Board (IRB) of the Research Committee of Blessing-Rieman College of Nursing.

Purpose: The purpose of this survey is to assess the degree to which students who complete NSG 103: Success Skills for Lifelong Learning retain and apply their understanding of learning and teaching styles in subsequent semesters of their college experience at Blessing-Rieman College of Nursing, and secondarily, to determine if there is a correlation between applying that knowledge and the students' grade point averages. The data will be analyzed as part of doctoral course requirements of the Researcher. The results will be used to make curricular decisions about future NSG 103 course content, and may be submitted for publication.

Confidentiality: The responses will be kept in strict confidence, in accordance with standards of professional scholarship and the stipulations of the policies of Blessing-Rieman College of Nursing. No student's personal identity will be utilized or revealed in any reporting of the survey results.

Consent: Completion and return of the statement below with student's name and class level filled in will constitute consent to use the data for the research study.

I, have read, understand, and agree to the terms of this research survey. I am completing it on this date:

I am now enrolled as a (circle one) NI FR SO JR SR student in the nursing program.

Signature:

General Directions:
Participants may complete the survey online and return it as an email attachment to limayfield@brcn.edu ; or print or pick up a hard copy and submit it in the box marked for that purpose in the Library Computer Lab; or place a hard copy in Linda Riggs Mayfield's mailbox in the Academic Assistant's office.

Please see the next page (or back of hard copy) for the Survey.

Appendix A- continued

	Learning and Teaching Styles Survey **NSG 103 Students Blessing-Rieman College of Nursing 2002-2006** Please reflect, then indicate to what degree you agree with the statement by placing an "x" under the appropriate number on the Likert Scale.	Strongly Agree				Strongly disagree	Don't know
		5	4	3	2	1	0
	Sample: I know my dominant learning style	X					
1	I am a dominantly visual learner						
2	I am a dominantly auditory learner						
3	I am a dominantly auditory learner						
4	I am a dominantly kinesthetic learner						
5	I tend to be a dominantly left-brain thinker.						
6	I try to use study strategies that match my learning style.						
7	My preferred teaching style is lectures.						
8	My preferred teaching style is activities						
9	My preferred teaching style is reading assignments and presentations by others.						
10	If an instructor teaches in a style that does not match my preferred learning style, I know skills that help me adapt.						

BOOK REVIEW: *A Training Guide for College Tutors and Peer Educators*

Lipsky, S. (2011). *A Training guide for college tutors and peer educators.* Boston: Pearson Education, Inc. 113 pages.

REVIEWED BY CHRISTOPHER LACKEY
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A *Training Guide for College Tutors and Peer Educators*, by Lipsky, provides an overview of the many facets of tutor training and development. Each chapter addresses a conceptual area by providing theoretical frameworks, questions, activities, assessments, feedback from experienced tutors, and other resources to elaborate upon the underlying ideas. By presenting both concepts and methods through a variety of different learning preferences—representing best practices found in tutoring sessions—Lipsky ensures that all types of readers will find something with which they resonate and that tutors will engage with the material, so they can experience the very same methods that will best serve their students.

The number of activities and open-ended questions presented requires considerable active involvement. The information is itself presented in a variety of visual formats, utilizing numerous lists, tables, highlight boxes, and so on, with few long blocks of text. As a result, reading the book feels more dynamic than a typical text. The information is grouped in many different ways, which breaks up the otherwise straight narrative of each chapter. As a result of presenting a rather "nonlinear" reading and engagement experience, Lipsky parallels some of the methods used in effective tutoring sessions: multiple representations, open-ended questioning, exploratory activities, and so on. The layout also means that much of the information for a given subsection is accessible at a glance and can readily be used for handouts or activities. One possible downside of this format is that certain topics may not get an in-depth coverage, at least using a traditional narrative style.

A typical chapter includes an opening description with questions and an activity to prepare the reader for each of the nine chapters' content such as, "The Power of Peers," "Promoting Active Learning," "Collaborative Learning and Group Work," and "Tutoring as a Proactive Process." As a result, the reader can self-assess his or her prior knowledge before delving into the chapter and can fill in any gaps or correct misunderstandings while progressing through it. As the chapter unfolds, the reader is encouraged to explore ideas from several perspectives—as themselves, as a tutee, and as

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a tutor well-versed in the chapter's main ideas. In other words, while the central ideas (such as learning-styles inventories or strategies to promote active learning) may stay the same in theory, their implementation can and should vary considerably from person to person or from session to session. Readers familiar with learning theories will recognize many of the frameworks and ideas described throughout, typically introduced at the beginning of chapters. Some of the theorists and their theories presented are as follows:

- Malcolm Knowles: Pedagogy versus andragogy
- Arthur Chickering: Seven vectors of psychosocial development
- Learning Styles: Visual/Auditory/Kinesthetic
- Learning Styles: Myers-Briggs personality types
- Lochhead & Clement: Cognitive Process Instruction
- Benjamin Bloom: Taxonomy of cognitive tasks
- Lev Vygotsky: Zone of Proximal Development

The chapter continues with a wide variety of activities and open-ended questions which prompt the reader to explore each area and viewpoint; it is this variety that drives home an important point: knowing the theory is not the same as knowing the practice. A clear theme emerges: it is simply the beginning of the journey to becoming an experienced practitioner. As one might imagine, such a journey requires flexibility, persistence, and constant self-assessment on the part of the tutor. Chapters close with informative, specific suggestions from experienced tutors. This segment provides a summary of the central ideas of the chapter by giving real-world, "field-tested" advice to the reader; it is an essential component. One weakness is the limited number of suggestions provided, readers would benefit from considerably more of such advice. Another weakness is the absence of providing any direction (answers) for the plethora of open-ended questions. While the decision to omit answers clearly follows the overall philosophy of student-directed knowledge construction, such omissions may be frustrating for those who are unsure if they are on the right track and are reading the training guide specifically for direction.

On the positive side, while some readers may find the coverage lacking or superficial in places, the training guide does provide an introduction to some critical theoretical ideas that are essential to tutoring, thus providing a solid base for all beginners. More in-depth information could be part of an ongoing tutor training program. This guide ties essential theories to specific, practical suggestions and open-ended, activity-based questions which can be used in a variety of teaching and learning situations.

Overall, this moderate-length training guide contains a wealth of information and ideas. Tutors of any level of experience will find value in the theoretical frameworks, the activities, the assessments, and the advice from experienced tutors. Tutor trainers will find numerous ready-to-go activities, each with solid theoretical and research-based rationales; these activities

are easily modified to suit specific training programs if necessary. Lipsky's training guide is easily-accessible and its sectioned format allows readers to get something valuable from anywhere in the book. Used in this way, it can provide ideas and activities without a large time commitment, yet still has enough structure and detail to warrant a thorough read from start to finish, particularly for tutor trainers.

It should be noted that a separate Instructor's Manual is available to accompany this text. According to the author, this manual includes considerably more material which elaborates upon the material found in this text. Although this reviewer did not have the Instructor's manual included in its review packet, it may be of value, particularly for the purposes of designing and administering a training program because it contains a "Sample course syllabus and topic outline that are blueprints for a credit-bearing course [in tutor training]," (pg. xix). It also includes "…information and materials, including sample assessment tools and templates, to use when applying for certification for Tutoring Programs (CRLA) and Course-Based Learning Assistance (NADE)," (pg. xviii). While students in such a program would certainly benefit from the version reviewed here, having a more elaborate version would likely be more useful for training, and would be a valuable reference for any tutoring center.

BOOK REVIEW:
Teaching Study Strategies in Developmental Education: Readings on Theory, Research, and Best Practices

Hodges, R., Simpson, M.L., Stahl, N.A. (2011). *Teaching study strategies in developmental education: Readings on theory, research, and best practice.* Boston: Bedford/St. Martin's

REVIEWED BY JOAN TREMPE
THE UNIVERSITY OF TOLEDO

Many professionals arrive to the field of developmental education indirectly. The variety of professional paths that lead to a career in academic support creates a requirement for common foundational knowledge for the profession. *Teaching Study Strategies in Developmental Education: Readings on Theory, Research and Best Practice* (2011), by Russ Hodges, Michele Simpson, and Norman Stahl, can serve as a succinct overview for new professionals in the field of developmental education and learning assistance. It is a compilation of published articles pertaining to best practices and theories of learning, which the authors found useful in their professional development. The articles can also act as a springboard of conversation between colleagues. *Teaching Study Strategies* would be appropriate to both those new in the field as well as a source of pertinent articles for seasoned professionals.

The book is divided into six chapters containing 29 article selections related to theory and practice of teaching college students to be effective learners. It begins with a focus on the historical background of developmental education. The articles in chapter two summarize the state of developmental education today. The following focuses on the student populations served by the programs, while the next chapter addresses student beliefs about study strategies. In chapter five, the editors include articles related to theory, research and best practices in developmental education. The concluding chapter focuses on the role of assessment in effective instruction. Each chapter begins with an overview of the topic written by the authors, followed by three to seven published articles related to the topic. The articles are relatively current with publication dates primarily in the mid 2000s. While there is a natural flow from beginning to end, the reader can either choose to read articles based on the chapter topic or take advantage of the comprehensive table of contents, in which each article is succinctly summarized by the editors.

A comprehensive description of the background of the editors and the contributing authors is provided in the back of the book. Each of the three editor's background contributes to a unique perspective into the learning assistance field and is evident in their introduction to each chapter. Dr.

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Hodges, Associate Professor of Adult and Developmental Education at Texas State University, was awarded the College Academic Support Programs (CASP) Lifetime Achievement Award in 2008. Dr. Simpson, Professor at University of Georgia, has coauthored many books and published over 60 articles related to reading and learning. Dr. Stahl, Professor and chair of the Department of Literacy Education at Northern Illinois University, has received many honors and awards for his research pertaining to reading and learning. Dr. Stahl is currently President-Elect of the College Reading and Learning Association.

The historical overview discussed in the first chapter centers on a simple question. Are reading and studying the same? To aid in answering that question, the editors include an article written in the early 1700s by Isaac Watts, "Of Study or Meditation," outlining 16 recommendations for studying. After reading the article, the reader receives a clear message: many theories and practices of learning are timeless. Watts' article is a good review of particular learning practices that have historically been successful.

Each chapter builds on the previous one, offering a smooth transition of ideas and broadening the reader's understanding of the field. As the editors convey, chapter two builds upon the historical foundation by presenting articles that address an understanding of unifying concepts for the field. One such article, "Exploring Alternatives to Remediation," by Hunter Boylan, explores alternatives to remediation. The article outlines alternative approaches such as supplemental instruction and freshman seminars. The article, written in 1999, is not groundbreaking, but it does serve as a source of foundational knowledge for new professionals in the arena. The article, "Glossary of Developmental Education and Learning Assistance Terms," by David Arendale, is beneficial to new professionals in the field because it is a glossary of developmental education terms which includes phrases, definitions, and recent additions to the vernacular in the area of learning assistance and developmental education.

One stated goal of the editors was for the book to be a source of conversation among professionals in the field of learning assistance. A particularly interesting article titled, "Advice about the Use of Learning Styles: A Major Myth in Education," by Howard Dembo, is sure to stimulate conversation among learning assistant professionals because it discusses the reliability of learning style instruments and whether such an instrument benefits students. Dembo also addresses the lack of research to support improvement in grades by those who adopt study methods based on the results of a learning style survey. This article succeeds in creating a catalyst for conversation among those in the field of academic support.

Several articles refer to classroom teaching; however, as a professional in a learning assistance center, I saw how many of the best practices discussed in the book can be utilized by a tutor, mentor or academic coach. "How Classroom Teachers Can Help Students Learn and Teach Them How to Learn," by Kenneth Kiewra, is one such example. Learning assistant professionals can instruct students in the NORM method, outlined in this chapter, as a strategy for academic success.

The organization of *Teaching Study Strategies* made it easy to navigate and, in turn, find relevant articles quickly. Each chapter's introduction, written by the authors, appropriately summarized the general theme and succeeded in tying the articles together. The articles offered a variety of viewpoints by leaders in the field, as evidenced by the brief professional biography of each of the article authors as well as a more comprehensive description of the author's credentials. All authors are accomplished professionals in their field of study.

As a new professional in the field of learning assistance in higher education, I found this book to be a perfect combination of practical information and a relevant source of information on research and theory in the field. The contributing articles, written by researchers from assorted higher educational institutions, put forth a diverse mixture of perspectives related to best practices and learning assistance strategies. A definite positive is its organization, which easily allows the reader to choose applicable articles for his/her area of interest. The authors achieved their stated goal of writing a book containing published articles as a source of professional development and as a base of discussion with peers. I recommend this to all professionals in developmental education, but particularly to those new to the field of either developmental education or learning assistance in higher education.

Pertinent Publishing Parameters

The Learning Assistance Review (*TLAR*), the national peer reviewed official publication of the National College Learning Center Association (NCLCA), publishes scholarly articles and reviews that address issues of interest to learning center professionals (including administrators, teaching staff, faculty, and tutors) who are interested in improving the learning skills of postsecondary students. Primary consideration will be given to articles about program design and evaluation, classroom-based research, the application of theory and research to practice, innovative teaching and tutoring strategies, student assessment, and other topics that bridge gaps within our diverse profession.

Categories for Submission

Articles

- Topics: *TLAR* will accept manuscripts that address our purpose: to publish scholarly articles and reviews that address issues on program design and evaluation, classroom-based research, the application of theory and research to practice, innovative teaching and tutoring strategies, student assessment, etc.
- Types: *TLAR* will accept manuscripts for the following four of the article types outlined in the American Psychological Association Manual: empirical study and articles on review, theory, and methodology. Follow 6th edition APA manual (sections 1.01-1.04) for specific requirements and structure for each type; regardless, all manuscripts need a clear focus that draws a correlation between the study, review, theory, or methodology and learning assistance practices.

Joining the Conversation

- Idea Exchange: Discussion directly related to articles published in *TLAR*. Submissions are limited to fewer than 4 paragraphs and are to be constructive idea exchanges. In addition to the name, title, college, and contact information from the submitter, Idea Exchange submissions are to include the details of the referenced article (Title, author, and volume/number, and academic semester/year). A submission form may be found online on the *TLAR* website.
- Further Research: Article submissions that have a stated direct link to prior published *TLAR* articles. These articles will be considered following the manuscript submission guidelines.

Book Review

Book review requests should be accompanied with two copies of the book to facilitate the reviewing process. Potential book reviewers are urged to contact the editorial team for details.

Manuscript Guidelines

Manuscripts and reference style must be in accordance with the Publication Manual of the American Psychological Association (6th ed.). Submissions that do not comply with APA style will be returned to the author(s). Manuscripts must be original work and not duplicate previously published works or articles under consideration for publication elsewhere. The body of the manuscript may range in length from 10 to 20 pages, including all references, tables, and figures. Longer articles will be considered if the content warrants it. The authors are responsible for the accuracy of all citations and references and obtaining copyright permissions as needed. The only acknowledgments that will be published will be those required by external funding sources.

Submission Guidelines

Submission packets must include:

- A cover page
- The original manuscript
- A masked manuscript for review
- One hard copy of these materials must be mailed to the address listed below.
- An electronic copy must be submitted to the e-mail address listed below.
- The title page must include the title of the manuscript (not to exceed 12 words); the name(s) and institutional affiliation(s) of all authors.
- The lead author should also provide work and home addresses, telephone numbers, fax, and e-mail information.
- All correspondence will be with the lead author, who is responsible for all communication with any additional author(s).
- The second page should be an abstract of the manuscript, maximum 100 words.
- To start the reviewing process, the lead author will be required to sign certificate of authorship and transfer of copyright agreement. If the manuscript is accepted for publication, all author(s) must sign an authorization agreement.
- Figures and tables must be black and white and according to APA style.

Please send your comments and/or article submissions to: TheLearningAssistanceReview@utoledo.edu with a hard copy to Christine Reichert, M.A., Editor, The Learning Assistance Review (*TLAR*)

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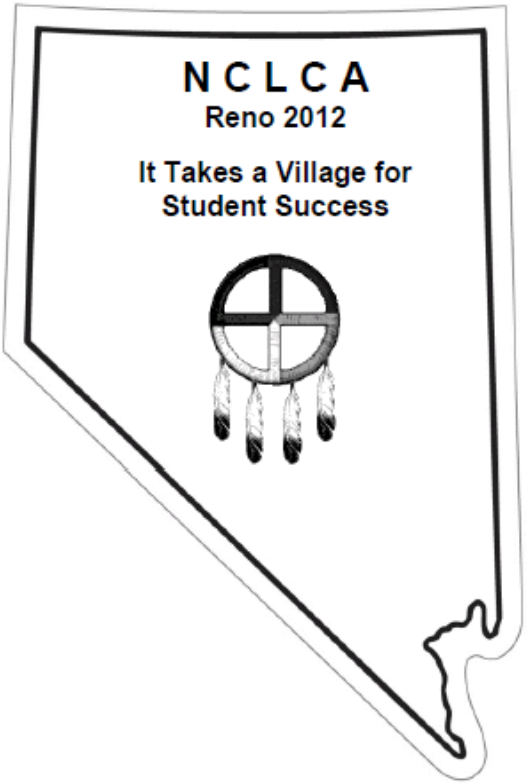
Review Process

Author(s) will receive an e-mail notification of the manuscript receipt. The review process may include a peer-review component, in which up to three members of the *TLAR* editorial board will review the manuscript. Authors may expect the review process to take about three months. Authors may receive one of the following reviewing outcomes:

(a) accept with minor revisions,
(b) revise and resubmit with only editor(s) review,
(c) revise and resubmit for second full editorial board review, and
(d) reject.

As part of the reviewing correspondence, authors will be electronically sent the reviewers' rankings and general comments on one document and all the reviewers' contextual markings on one manuscript. Manuscript author(s) must agree to be responsible for making required revisions and resubmitting the revised manuscript electronically by set deadlines. Manuscript author(s) must abide by editorial revision decisions.



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National College Learning Center Association

The Learning Assistance Review (TLAR) Managing Editor Job Announcement

The Learning Assistance Review (TLAR) is the official publication of the National College Learning Center Association (NCLCA). *TLAR* seeks to foster communication among learning center officials. Its audience includes learning center administrators, teaching staff, and tutors, as well as other faculty members and administrators who are interested in improving the learning skills of postsecondary students. *The Learning Assistance Review* is published twice a year, in the spring and fall.

Duties:

- Assist in publicizing Call for Submissions and contacting potential authors.
- Receive manuscripts from authors and maintain filing and tracking system of submissions.
- Maintain a database of reviewers and distribute manuscripts for review.
- Serve as a point of contact with printing and mail distribution services.
- Prepare layout and formatting of manuscripts for publication, or arrange for other staff persons to complete layout and formatting.
- Maintain contact with the Membership Officer on the NCLCA board for the purposes of coordinating transmittal of mailing lists of members for journal dissemination.
- Prepare mailing of journals or coordinate mailings of the journal with mailing services and distribute the complementary copies to authors, reviewers and other appropriate designees.
- Submit electronic transmittals of the journal to the various on-line abstract/listing agencies to which TLAR is a participant
- Prepare and submit invoices.
- Present at the annual NCLCA conference to foster a discussion with members regarding professional writing for TLAR.
- Receive a modest stipend for each issue upon completion of distribution.

Required Qualifications:

- Be an active professional in the field of learning assistance in higher education.
- Possess excellent organizational skills.
- Have experience with computer database programs such as Excel and Access.
- The managing editor must have experience with **InDesign,** desktop publishing software.
- Be willing and able to make a commitment to edit the journal for at least three years.
- Institutional support required.

In order to apply for this position please forward the following:
1) Letter of intent including reason(s) for interest including experience with APA format.
2) Letter of support from College/Institution administration.
3) Professional Resume
3) Additional information/documentation you feel support your candidacy.

Please send completed application documents to Christine.Reichert@utoledo.edu or fax to 419-383-3150
Subject line : NCLCA/TLAR Managing Editor Search Committee
Deadline for Submissions: December 15, 2011
Additional details available at http://www.nclca.org/tlar.html

NCLCA Membership Information

What is NCLCA?

The National College Learning Center Association (NCLCA) is an organization of professionals dedicated to promoting excellence among learning center personnel. The organization began in 1985 as the Midwest College Learning Center Association (MCLCA) and "went national" in 1999, changing the name to the National College Learning Center Association (NCLCA) to better represent its nationwide and Canadian membership. NCLCA welcomes any individual interested in assisting college and university students along the road to academic success.

NCLCA defines a learning center as a place where students can be taught to become more efficient and effective learners. Learning Center services may include tutoring, mentoring, Supplemental Instruction, academic and skill-building labs, computer-aided instruction, success seminars and programs, advising, and more.

Join NCLCA

NCLCA seeks to involve as many learning center professionals as possible in achieving its objectives and meeting our mutual needs. Therefore, the NCLCA Executive Board invites you to become a member of the Association.

The membership year extends from October 1 through September 30. The annual dues are $50.00. We look forward to having you as an active member of our growing organization.

Membership Benefits

A. A subscription to NCLCA's journal, *The Learning Assistance Review*
B. Discounted registration for the Fall Conference and for the Summer Institute
C. Regular issues of the *NCLCA Newsletter*
D. Voting privileges
E. Opportunities to serve on the Executive Board
F. Special Publications such as the Resource Directory and the Learning Center Bibliography
G. Opportunities to apply for professional development grants
H. Access to Members Only portion of the website
I. Announcements of other workshops, in-services, events, and NCLCA activities

Membership Application

On-line membership application or renewal available with PayPal payment option at: http://www.nclca.org/membership.htm. Contact Membership Secretary to request an invoice if needed.

OR

Complete the information below and send with your $50 dues payment to the NCLCA Membership Secretary. Be sure to check whether you are a new member or are renewing your membership. If you are renewing your membership, please provide updated information.

Please check one: ☐ New member ☐ Membership renewal

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Make check payable to NCLCA.

Send completed application form and dues of $50.00 (U.S. funds) to:

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National College Learning Center Association

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