



NATIONAL
COLLEGE LEARNING CENTER
ASSOCIATION

NCLCA

THE
LEARNING
ASSISTANCE
REVIEW

*Journal of
the National
College
Learning Center
Association*

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 students in the field of learning assistance at two- and four-year colleges, vocational and technical schools, and universities. All material published by The Learning Assistance Review is copyrighted by NCLCA and can be used only upon expressed written permission.

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NCLCA's Definition of a Learning Center

The National College Learning Center Association defines a learning center at institutions of higher education as interactive academic spaces which exist to reinforce and extend student learning in physical and/or virtual environments. A variety of comprehensive support services and programs are offered in these environments to enhance student academic success, retention, and completion rates by applying best practices, student learning theory, and addressing student-learning needs from multiple pedagogical perspectives. Staffed by professionals, paraprofessionals, faculty, and/or trained student educators, learning centers are designed to reinforce the holistic academic growth of students by fostering critical thinking, metacognitive development, and academic and personal success.

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Contents

Letter from the Editor

5

Michael Frizell

Rethinking Partnerships on a Decentralized Campus

9

Katie H Dufault

Book Review: *Remaking the American College Campus*

39

David Reedy

Changing Demographics and Needs Assessment for Learning Centers in the 21st Century

21

Emily Miller Payne

Russ Hodges

Elda Patricia Hernandez

Enabling a Community of Practice: Results of the LSCHE Web Portal Survey

37

Meagan A Hoff

Russ Hodges

Yuting Lin

Michael C McConnell

**Developing the Preparation in STEM
Leadership Program for Undergraduate
Academic Peer Leaders**

Stacey Blackwell	49
Sari Katzen	
Nipa Patel	
Yan Sun	
Mary Emenike	

**Respectful Alignment of Programs as a
Possible Factor in Remedial Writers' Pass
Rates**

Mary McDonald	85
---------------	----

Pertinent Publishing Parameters	103
--	-----

NCLCA Membership Information	107
-------------------------------------	-----

Letter from the Editor

The chair of the Search Committee, a tall, bearded, red-haired man dressed in a crisp white shirt, blue pinstriped suit, and shiny black Nike running shoes, leaned forward, obviously enjoying the sound of his bass voice in the small, empty classroom that served as the campus Writing Center. “What would you change if you were named Director?” He sat back, slapped his pen on the desk, and smiled broadly, proud of his question. The two committee members at his sides mimicked his body language perfectly.

It was, of course, a trick question. For a year, the Writing Center on campus had sat fallow, limping by with reduced staff and little supervision during the search for a director. The former director, a popular and energetic professor in the English department, retreated back to her faculty line to concentrate on research. Under her guidance, the center had thrived for fifteen years. I was in my fifth year as a lecturer in the Collegiate Reading and Learning Program where I taught the freshman experience class, a capstone class, and wrote curriculum for study skills and reading acquisition courses. The search committee must have recognized that the center needed to evolve, so they rewrote the job description to mandate that the new director be someone who understood study skills and student motivation in addition to composition. They also changed the rank from faculty to professional staff, much to my chagrin.

I paused, even though I expected the question and had carefully crafted my answer in the days leading up to this interview. My brainstorming scenarios ran the gamut from tearing the entire concept of a Writing Center down and starting over to make it my own, which seemed self-serving, or to simply follow in my predecessor’s footsteps. I decided on a fast, simple answer, one that would be both honest and give me leeway in the future. After all, does anyone dream of being the director of a Writing Center or a

Learning Commons? As a kid, I wanted to be Luke Skywalker. But I was here, sitting in a hard chair in a characterless classroom, my future career yet to be decided.

“I don’t know if I would change anything,” I casually replied as I ran my fingers through my hair. “I would like to see it in action before I answer that question. If it isn’t broke, don’t fix it, right?”

The chairman’s eyebrows arched upward, waiting for more from me. When nothing came, he whispered to his fellow committee members. “Thank you. You will be notified in writing about our decision in the next week.”

A few weeks later, the position was mine. The 800 square foot space was a blank slate to do with as I pleased. Seven writing tutors and three receptionists had already been hired. The file cabinets and bookshelves were empty. I had no website, no marketing materials, and no information on training or history of the center. That first academic year, we saw almost 1,300 students. I set my five year goal to reach 20% of the student population of roughly 25,000.

I realized early on that a two-pronged approach to molding perception became important in establishing the Writing Center’s pedagogical identity. First, the center had to be marketed as both tied to faculty expectations and student achievement. Second, the center had to be perceived as a service for advanced writers as well as beginners. Of course, the perceptions created by this marketing must also match the work of the renamed writing consultants and vice versa. In those early days, I adopted the look of the search committee chair and, dressed in suit, tie, and requisite Nikes, trekked to campus offices, crashed department meetings, and cornered faculty members in copy and conference rooms, gymnasiums, and stadiums, hallways and dining facilities, asking them one simple question while my pen hovered above my notebook:

“What can our campus Writing Center do for you?”

Within three years, my Writing Center was seeing roughly 4,000 students a semester. Faculty and staff were visiting my

writing consultants, too. Thirty-five percent of those students were graduate students while only eighteen percent were freshmen. I had six receptionists, twenty undergraduate and six graduate writing consultants as well as a part-time, thousand-hour employee, a former teacher I hired to assist me with field observations. I soon became a victim of my own success as increased traffic and attention meant closer scrutiny of my Center by faculty and administration.

During year four, the newly-hired Associate Provost for Student Development and Public Affairs, my third boss in four years, said that my Writing Center was the lynchpin for a new initiative on our campus. “Your Center will be integrated into a library-centered learning commons, where we will be offering subject-area tutoring and reference services,” she said. “When we did this at my former institution, student visits topped almost 10,000 a year,” she said with a smile. Her suggestion mirrored my own thoughts about the growth of the Center.

More and more, institutions of higher education are seeking effective ways to retain students, and the past decade has witnessed the rise of the learning commons concept, a space uniting a myriad of student support services into a shared, interactive space. In those early days, I didn’t know about organizations like the National College Learning Center Association. As you read this, I am now the vice president of the organization and deep in the midst of planning the annual conference.

It is in the spirit of collegiality that I am proud to present two chapters from NCLCA’s upcoming book about the development, staffing, and assessment of a learning commons in higher education. The first, titled “Changing Demographics and Needs Assessment for Learning Centers in the 21st Century” is written by Emily Miller Payne, Russ Hodges, and Elda Patricia Hernandez. This helpful article highlights the future of our spaces and I think you’ll find it enlightening. “Rethinking Partnerships on a Decentralized Campus” by Katie H. Dufault, the second chapter I’m featuring in this issue, talks about ways to negotiate the relationship between your center and campus stakeholders. These chapters, edited by Laura Sanders, are but a sample of the volume coming this fall.

In addition, this issue features fantastic articles by Mary McDonald, Meagan A. Hoff, Russ Hodges (again), Yuting Lin, Michael C. McConnell, Stacey Blackwell, Sari Katzen, Nipa Patel, Yan Sun, and Mary Emenike, and a book review by David Reedy.

Best,
Michael Frizell
April 7, 2017

Rethinking Partnerships on a Decentralized Campus

Katie H Dufault
Purdue University

Overview of a Decentralized Model

Decentralization is an effective approach for structuring campus learning and success centers. McShane & Von Glinow (2007) describe decentralization as “an organizational model where decision authority and power are dispersed among units rather than held by a single small group of administrators” (p. 237). A decentralized structure will look different for each campus; it may consist of multiple locations, administrators, budgets and reporting lines, and/or services. There are unique challenges and benefits to this model. Learning center professionals can capitalize on the benefits of decentralization while minimizing the challenges by using effective strategies focused on communication and partnerships.

Since the campus context plays a major role in a decentralized learning center, examples from the experiences of the staff at one learning center illustrate the navigation process of coordinating academic support efforts. The subject institution is a Midwestern public research I institution, with a long-standing history of decentralization. Its ten colleges/schools serve nearly 40,000 students who represent various domestic and international origins. Colleges and schools have a high level of autonomy in areas including admissions, learning support, and advising. Departmental independence was so entrenched in campus culture that university leaders did not systematically increase coordination and collaboration across campus until the Fall 2013 semester, when they implemented a university-wide core curriculum. Around this same time, the campus learning center, which had reported to a single college since its launch in 1972, began reporting to the provost’s office instead. After 40 years of operating within the tradition of autonomy and

decentralization, the center's administrators suddenly charged with a new challenge—establishing coordination among all of the institution's undergraduate academic success and support programs.

Challenges in a Decentralized Model

When coordinating academic support resources on a decentralized campus, there may be several challenges. Professionals might consider assessing overall effectiveness of services provided across the campus to best understand challenges and strengths of the individual units and the combined efforts. Differences between programs, duplication of resources, and communication difficulties brought about by the decentralized model often highlight the need for increased coordination and collaboration among university partners.

Inconsistencies between programs may make it difficult for students to navigate and enjoy a seamless experience. When auditing campus resources, staff may find discipline-specific help centers/labs, tutoring programs for specific student populations, programs offering support available to all students, and multiple academic departments with some type of listing of private tutors. Resources could have different definitions and titles for tutors. Academic support facilitators could include professional tutors/retired faculty, graduate teaching assistants, alumni, undergraduate peer tutors, and small group session leaders. Some tutors may be paid, some may set their own rates, and others might be volunteers or members of a student organization service. There likely also may be inconsistencies in policies, procedures, and expectations for both tutors and the students they serve. Likewise, tutor selection, training and evaluation may vary greatly by resource. Some resources may be structured to count informal, one-on-one conversations as training while others may require a semester long course to be eligible for a position. Resource centers may be structured with widely different administrative protocols. For example, on a subject campus, not all programs may collect attendance and session data, and those who do often lack electronic record of the data. Along with attendance, each resource may have different evaluation and assessment processes and requirements. The audit of resources on a subject campus could

reveal many administrative inconsistencies because of differences in each coordinating professional's position and job requirements (faculty, staff, full-time, part-time, contract length, etc.).

In addition to organizational inconsistencies, decentralization and lack of coordination often results in a duplication of resources (Balk, 2012). Many of the resources may support the same courses, usually at the 100- & 200-level. Such a duplication of course offerings was found on the subject campus can result in a few courses with numerous (3-5+) options for students while other courses with a similar need for support provided no options. This type of inconsistency of service becomes especially challenging for students who pass lower level courses with the support of many resources only to progress to upper level courses with no resource support. Another area of duplication may be staffing. These analogous programs require administrators to manage them, resulting in a university budget with allowances for multiple positions of similar description. Additionally, multiple tutor selection processes can create potential competition between programs in the recruitment of strong tutor candidates and result in duplicated efforts for professional and student staffs. According to Balk, various types of duplication lead to programs that are not maximizing support offerings, fiscal resources, and human resources.

Lastly, decentralization creates several challenges that may impede the success of students using campus resources. The subject campus's audit also may expose how few people (parents, faculty and staff) are aware of offered programs. Informal feedback and narratives from both students and advisors frequently highlighted frustrations in finding resources. Most advertising focused on individual resources. Students reported an ongoing confusion and frustration to understand the various services offered within the different resources, which courses were supported at which center, and keeping track of the various locations, hours of operation. Unfortunately, students all too often choose to do nothing and "consult no one" (L. Smith, 2003, p 18). Rather than provide a seamless support system and integrative experience, decentralization can result in students who are both frustrated and unable to find critical academic support.

Benefits of a Decentralized Model

Decentralization does have benefits, which learning center administrators may preserve through coordination (rather than reorganization and centralization). One benefit is the ability to provide students multiple academic support options, such as individual, small group, “study hall,” “appointment only,” and “walk-in.” Students, in turn, may explore and choose which approach might best meet their needs, goals, and schedules.

In addition to coordination of services, additional benefits are often related to two major groups of resources: “help centers” and programs for “specialized academic assistance.” Help centers may have especially strong discipline faculty and advisor “buy-in” because they typically specialize in a specific area and knowledge base rooted in discipline-specific practices/pedagogy. Many help centers have staff serving in some role that connect the classroom content, assignment expectations, and exam materials to out-of-class support.

Specialized academic assistance programs also benefit from a decentralized model. Most specialized programs offer academic resources that cater to specific student populations’ needs and experiences. On a subject campus, several specialized programs may base their course offerings on a set plan of study/requirements for their students. Others may have course offerings that respond to student requests and/or needs based on previous failure/success rates. Specialized programs often have funding tied to specific initiatives and measurements, such as retention, completion, and graduation rates. Having resources targeted for specific student populations can be helpful when evaluating the impact of interventions with students to assist them in meeting those measurements or funding requirements.

On a subject campus, a main identified benefit can be the flexibility and autonomy each resource maintained by creating a support program that is most appropriate for the discipline, population, location, etc. Overall, L. Smith (2003) said that decentralization was seen as a campus strength that allows for both independence and collaboration.

Strategies to Increase Collaboration

To increase collaboration on a decentralized campus, learning center administrators have to rethink partnerships to find successful ways of coordinating efforts. The root of challenges is often lack of communication. Therefore, learning center staff must focus on increasing communication among all campus stakeholders, including but not limited to the following: creating groups for campus professionals to communicate, establishing partnerships outside of traditional academic resource areas, and unifying communication targeted to students. Coordination is a critical component of fostering intentional academic support for students within any decentralized model. Intentional partnerships across units enhance students' overall learning experience and maximize their capacity to achieve academically. When facilitating coordination, it is important to solicit students' personal and second-hand knowledge of using existing interdepartmental resources. One of the first steps in creating a more collaborative campus is establishing a setting where professionals from various colleges/schools, departments, and resources can have conversations. Establishing task groups, communities of practice, or even informal networking circles not only increases communication, but can also provide campus staff with opportunities for professional development.

On a subject campus, several groups can be created to allow professionals to network and collaborate based on job responsibilities and interest. One of these groups can be dedicated to a discussion on program overviews, best practices, and current issues faced by campus professionals involved with academic resources (B. Smith, 2011). As a result, a campus wide document outlining the rights, responsibilities, and ethics of tutoring can be established. This document creates a general foundation of consistent expectations about the role tutoring plays on campus while preserving benefits of flexibility and autonomy. Similarly, another group of professionals who offer workshops, outreach, and study skills resources can work together as a "think tank." In addition to researching evidence-based practices to improve workshops, the think tank can produce a referral guide for faculty and staff. Moreover, the staff at a subject campus's learning center can join efforts led by other areas, including

a community of practice for academic advisors focused on students on probation and a task force responsible for developing proactive interventions for at-risk students. Collaborating with academic advisors on issues around probation leads to several changes in a learning center's services and advertising; it also establishes relationships and trust with staff, opens communication lines between the learning center, campus resources, and the advising community.

Additionally, partnerships developed in unison with units charged with fostering diversity and inclusion may facilitate intentional engagement with diverse populations. For example, Harper (2012) reports that Black male completion rates are lowest among both sexes and all racial/ethnic groups in U.S. higher education. Learning center administrators should gain understanding of this reality and consider how to provide intentional outreach and support. Professionals can develop academic success initiatives aimed at fostering the success of Black males, and they also can develop a task force focused on implementing interventions for other students deemed at-risk in the context of their institution. For similar impact, learning center professionals might provide programming that exposes students to resources and provides intentional academic support. Understanding and catering to the needs of diverse populations will help develop a more keen understanding on how to meet varied learning styles and needs students possess.

Another critical step will be improving communication to students about all the academic support opportunities that the campus offers. It is important that administrators consider the student audience, its needs, and campus communication trends. Some approaches to communicating a unified voice for all partnered resources include the following:

- Creating a common logo or branding to be used on all marketing pieces
- Posting flyers and information about all academic resources in each location
- Developing a shared marketing piece, such as a brochure or flyer
- Providing coordinated outreach such as resource fair or open houses

- Hosting a centralized website that links to individuals sites
- Establishing an app to feature all of the resources

In addition to considering the student audience, administrators should also be mindful of other factors including budget, resources, seasonal timing of decision, and anticipated impact.

At a subject campus, the first step usually includes launching a web page to provide centralized information and links to all academic resources. This low-cost step (with typically high potential for in-house tech support), provides immediate impact, thus increasing awareness and simplifying referrals. Over time, the web page can evolve from a listing of resources to an interactive, searchable resource database. The page needs to be conscientiously updated to include information about private tutoring and academic consultations to provide options for courses not currently supported otherwise. In addition, learning center staff can develop an app for students to access campus resources from their mobile devices. Students can see what resources are available, download sessions or availability to their device's calendar, or utilize a map to guide them to the resource's location. The app and its features may reduce some of the challenges students face when navigating campus resources. Overall, coordinated electronic communication provides the campus with a dynamic format and had a high-impact for targeted specific student audiences while maintaining minimal budgetary and staffing needs.

Future Directions

Effective collaboration in a decentralized structure does not occur after one meeting or the creation of a shared logo. Rather, it must be an ongoing relationship among administrators and staff of each program, service, and center. Learning center administrators should continue to strengthen partnerships and improve the coordination of academic success and support programs.

Beyond initial efforts, coordination of decentralized centers can become a shared and continuous venture. Ideally, the coordinating group can work to move to a place of sharing ideas and resources, rather than compartmentalizing and competing for them.

Setting a regular review and planning meeting for each academic year, semester, and/or quarter is important in sustaining momentum and communication. As part of a larger, connected group, learning center professionals can advocate for all collaborating programs with a stronger, shared voice. For example, by standardizing data collection, administrators can continue to refine campus best practices and strengthen assessment. This data will provide a more accurate campus-wide perspective on the utilization of academic assistance programs and can serve as a valuable tool in institutional decisions. With each future collaboration effort, learning center staff and its partners can aim to use its institution's decentralized model to maximize student benefits while minimizing their challenges.

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Book Review: *Remaking the American College Campus*

Silverman, J. & Sweeney, M. (Eds.) (2016). *Remaking the American college campus*. Jefferson, NC: McFarland.

Reviewed by David Reedy, PhD

This recently published book is a collection of essays composed by individuals who are working as staff, faculty, or administrators at institutions of higher education located across the US. The topics, as seen through the eyes of these authors, include underrepresented student populations, ecology on campus, integrated buildings, mascots, funding new buildings, reutilizing old buildings and structures, an FYE course, and several others. The purpose of this book is to enlighten the reader on the various uses of campus for teaching, learning, living, sleeping, networking, and other issues which initially grew out of a discussion of the surroundings while in a “bleak lecture hall” encompassing many outdated materials and fixtures.

When discussing the American college campus, one author notes that many previous writers discussed how they viewed the campus through its production of well-educated individuals ready to take their successful place in US society. However, for this text, the authors have focused on how the campus was received by those who encounter it in its many facets. How do first generation students see the campus? What are the structures on ivy-league type campuses which could be seen as imposing? Must old structures have to be eliminated to make room for new, technologically fresh structures? Does every location need to be a multi-use making singular design spaces obsolete? Each of the authors clearly identify what is unique on the “campus.”

Several of the essays in this collection describe physical structures. An older “Hall of Fame” structure at City College of New

York was identified as a focus for writing assignments in a humanities course. This use of the structure brought to light the opportunity for students to see history through the eyes of a researcher. Another “use of the campus” with a new software app in an FYE course included the campus as the field of study whereby the scavenger hunt assignment turned into a photo collage opening the eyes of fellow students and the instructor alike. Yet another discussion focused on one building in which both faculty offices and student sleeping rooms were co-mingled. This odd set up included a discussion of how faculty and students encounter each other throughout the day in a wide variety of settings.

A particularly poignant essay identified how the funding from the state was established based on its sale of natural resources. While the university that was funded expected the money to continue, and was used to develop many portions of the campus, it did not plan that an offset of income would be encountered. While this is something most administrators would understand and begin planning for, at this institution it was relatively unheard of.

For a final discussion on structures, we return to the book’s introduction. This essay shared how the Academic Support Center was incorporated into an upgraded building with a modern structure of glass and steel, having ample natural light, “reducing energy costs and helping it earn a Gold LEED certification” (p. 5). While this has historically not been the norm for the ASC location, the discussion identifies how, when its value has been proven, the learning center can become one of the shining spots on campus. Using academics as its selling point, a contemporary campus showcases not only classrooms where technology is clearly integrated, but also how the support for the out of class activities is presented. This singular essay had a focus on learning assistance however the other essays may be interesting for some to read in order to identify how various populations view the campus, physically and virtually.

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Changing Demographics and Needs Assessment for Learning Centers in the 21st Century

Emily Miller Payne, Russ Hodges, and Elda Patricia Hernandez
Texas State University

Changing Demographics and Needs Assessment for Learning Centers in the 21st Century

Students entering postsecondary education embody America's growing diversity. Rapid demographics shifts and changing student attendance patterns pose new challenges for higher education. Enrollment trends vary across states and regions with some areas seeing increased student populations while others are experiencing declining enrollments (Center for Public Education, n.d.). Institutions must transform and adjust to accommodate the dramatic shifts in student demographics. Learning centers that offer best-practice interventions will contribute positively to students' retention and certificate or degree completion. This chapter provides insights into student attendance patterns, first through the lens of high school graduation rates, then through future college enrollment trends, and finally through college completion. Demographic research findings support conducting needs assessments to meet the emerging needs of our changing student demographics.

High School Graduation Rates

Approximately 50 million students entered elementary and secondary schools for the fall 2014 term at an estimated \$619 billion cost for the year with a projected expenditure per student of \$12,281 (U.S. Department of Education, 2014). Will they succeed and graduate? The trend is moving in a positive direction. In 1940, approximately 25% of the U.S. population 25 years old and over had completed high school compared to 80% in 2000. In 2011, 87.5% of the population 25 years old and over had completed high school. While overall high school graduation rates have steadily increased, the

graduation rates for Hispanics (64.2%) and Blacks (84.4%) were still lower than rates for non-Hispanic whites (87.9%) and Asians (88.6%) in 2011 (Center for Public Education, n.d.).

Trends in immigration and birth rates indicate that soon there will be no one majority ethnic group in the United States—that is, no one group that makes up more than 50% of the total population. As a result, the nation's public high school student population is expected to become more diverse. Projections between 2008 and 2019-20 indicates a 41% increase in Hispanic graduates, a 30% increase in Asian and Pacific Islander graduates, and just under a 2% increase in American Indian and Alaska Native graduates. However, there will be a 12% decline in White non-Hispanic graduates and a 9% decline in Black non-Hispanic graduates (Prescott & Bransberger, 2012). Note that within the next several decades, high school demographic changes are also predicted to vary by state with a few states experiencing swift enrollment expansions greater than 15% (e.g. Colorado, Texas, and Utah) while others will experience enrollment losses of 15% or more (e.g. The District of Columbia, Maine, Michigan, New Hampshire, Rhode Island, and Vermont) (Prescott & Bransberger, 2012). An excellent source for national and state-by-state data, the Western Interstate Commission for Higher Education (WICHE) has produced public and non-public high school graduate predictions for over 30 years. For individual state profiles, visit the WICHE website (<http://www.wiche.edu/>).

Postsecondary Enrollment Demographics

Careers that require postsecondary education have doubled over the last 40 years (Carnevale, Smith, & Strohl, 2010). The good news is that more high school students are enrolling in college immediately after high school graduation. In 2012, 66% enrolled in 2- and 4-year institutions immediately after high school graduation compared to 60% in 1990 (Kena, et al., 2014). While the percentage of students entering higher education immediately after high school has increased over the years, the nation is entering a period of modest decline in the total number of overall high school graduates, which is closely tied to declining birth rates in the wake of the Baby Boom Echo. The peak occurred in 2010-11 when total high school graduates from public and nonpublic schools reached 3.4 million. A

2% growth is not expected until 2020-27 (Prescott & Bransberger, 2012).

Even with declining high school graduation rates predicted for the near future, the postsecondary student population is predicted to grow by modest numbers over the coming decade. Some 10.6 million undergraduate students attended 4-year institutions in 2012, while 7.2 million attended 2-year institutions. At 4-year institutions in 2012, some 77% of undergraduate students attended full time, compared with 41% at 2-year institutions (Kena et al., 2014). Demographic researchers have forecasted that between 2012 and 2023, part-time undergraduate enrollment will increase by 17%, a faster increase than the 12% increase projected for full-time undergraduate enrollment (Kena et al., 2014).

Ethnicity, Age, and Gender

Hispanics are the nation's largest minority group at 50.5 million (16% of the U.S. population). In 2012, more high school graduates who are Hispanic (49%) were enrolled in college than Whites (47%) (Lopez & Fry, 2013). The trend for Hispanic postsecondary enrollment is forecasted to continue between 2011-2022, with an increase of 27% (Hussar & Bailey, 2014), and by the middle of the 2020-2029 decade, 1 in 4 college graduates will be Hispanic (Prescott & Bransberger, 2012). As for other groups, between 2011 and 2022, White student enrollment in college is predicted to increase by 7%, enrollment of students who are Black will increase 26%, student enrollment of Asian and Pacific Islanders will increase 7%, and enrollment of students who are Indian and Alaskan Native student will stay the same (Hussar & Bailey, 2014).

The U.S. population has continued to grow older, with many states reaching a median age of over 40 years. Between 2000 and 2010, the population under the age of 18 grew at a rate of 2.6% and even slower for those aged 18 to 44 at 2.6%. However, during that same period, the population aged 45 to 64 has increased 31.5% and those aged 65 and over at 15.1% (Howden, & Meyer, 2011).

In terms of college enrollment in 2012, institutions saw 13 million students under age 25 and 8 million students 25 years old and over. Both the number of students who are younger and older increased between 2000 and 2012 (U.S. Department of Education,

2014). Aud et al. (2011) posited that between 2013 and 2020, college enrollment is projected to increase 5% for 18- to 24-year-olds, 16% for 25- to 34-year-olds, and 17% for students 35 years old and older.

The gender ratio at birth in the U.S. is currently 105 males for 100 females; however, mortality at every age is higher for males. Within our population, this results in more males at younger ages and more females at older ages (Howden & Meyer, 2011). The gender of the college-going population will see the current trend of females outnumbering males in enrollment and completion. In 2011, 45% of women ages 18 to 24 were enrolled in undergraduate or graduate programs, compared with just 39% of men in the same age group. The total number of students who are female earning bachelor's degrees from postsecondary, degree-granting institutions is projected to increase by 10% from 2014 to 2021. In contrast, the total number of students who are male having bachelor's degrees conferred by a postsecondary, degree-granting institution is projected to increase by 5.5% in 2014 to 2021 (National Center for Education Statistics, 2012).

First Generation Students

Students who are low income, first-generation comprise roughly 24% (4.5 million) of the undergraduate population (Engle & Tinto, 2008), and Hispanics account for nearly half (Bell & Bautsch, 2011). Students who are first-generation are not automatically presumed to be underprepared, but many come to college with limited background knowledge about the college culture, and students who are first-generation are less likely to enroll in higher education than students whose parents went to college (Engle & Tinto, 2008; Ward, Siegel, & Davenport, 2012). Previous research has found that students who are first-generation had higher rates of departure through their college years than their counterparts and were less likely to complete their degree programs in a timely manner (Ishitani, 2006). In fact, students who are low-income, first-generation were nearly four times more likely to leave college after their first year than those with neither of these two risk factors (Engle & Tinto, 2008). Bowen, Chingos, and McPherson (2009) found that even when they controlled for students' test scores in reading and math, the graduation rate of students who are first-generation was 18% lower than that of college-goers who are non-first-generation. Studies have

also indicated that students who are female first-generation are more likely to complete college than their male counterparts (DeAngelo, Franke, Hurtado, Pryor, & Trans, 2011).

Student Veterans

The GI Bill has afforded veterans an opportunity to attend postsecondary programs for decades, easing the transition from military life to that of a civilian workforce. Student veteran is defined as “active-duty service members, reservists, members of the National Guard, and veterans” (Queen & Lewis, 2014, p. 1). Ninety-six percent of postsecondary institutions for the 2012-13 academic year reported enrolling students who are veterans, and 82% of these institutions had a point of contact to serve their unique needs (Queen & Lewis, 2014).

The Million Records Project (Cate, 2014) tracked 1 million students who are veterans between 2002 and 2010 and of those 73% were male, 62% were first-generation, and 85% were non-traditional with many student veterans supporting families and juggling employment and school. Despite enrollment interruptions due to military obligations or challenges for those with service-connected disabilities, nearly 52% of student veterans within this study earned a degree or certificate within a 4 to 5-year period. Finally, in 2013, over 1 million student veterans used their GI benefits to pursue postsecondary educational benefits, up from 500,000 in 2009, with expected enrollment estimated to increase by 20% over the next few years (Prins, Spangler, Walser, & Ruzek, 2014).

Student Readiness Estimates

College readiness is a complicated student characteristic to assess. Whether states rely on a single assessment instrument for placement of students who are deemed college ready and placed in college credit courses, or on multiple indicators of preparedness, many other readiness factors must be considered: Point of entry (2-year or 4-year institution, public or private institution), selectivity of the institution, and students’ academic goals and fields of study are only a few factors to consider in the projection of college readiness. Interestingly, some research has indicated that students’ academic achievement by 8th grade is one of the best predictors of college readiness—even more so than high school achievement (ACT, 2008).

Estimates of readiness, using enrollment in a developmental (also still commonly referred to as remedial) course as a proxy for lack of readiness, can be more complicated as these reports vary tremendously depending upon the source. Attewell, Lavin, Domina, and Levey (2006) found that 58% of students in community colleges enrolled in at least one developmental course, 44% enrolled in one to three developmental courses, and 14% took more than three developmental courses. Aud et al. (2011) reported that 36% of students overall and 42% of students in first-year in community college take at least one developmental course. More recently, *Complete College America's Remediation: Higher Education's Bridge to Nowhere* (2012) reported that more than 50% of students entering 2-year colleges and nearly 20% of those entering 4-year universities are placed in developmental courses. Sparks and Ralph (2013) reported that first-year undergraduate student enrollment rate (2-year, 4-year, public, and private institutions combined) was 26% in 1999-2000, 19% in 2003-04, and 20% in 2007-2008. Thus, using multiple college readiness indicators and those specific to a particular region or institution is best when assessing college readiness.

First-Year Retention and Persistence

A large number of students are not returning to college after their first year. The National Student Clearinghouse Research Center (NSCRC) (2014) defined the college student persistence rate as the percentage of students who return to college at any institution for their second year, while the retention rate is defined as the percentage of students who return to the same institution for their second year. According to NSCRC, the overall persistence rate for college students who enroll first-time has decreased 1.2% since 2009, while the retention rate has remained fairly constant. Of all students who are first-time enrollees and who started in fall 2012, 68.7 % returned to college in fall 2013 with 58% returning to the same institution. Thus, about one in nine students who start college in any fall term transfer to a different institution by the following fall. However, the persistence rate is the worry. Since 2009, persistence rates for students age 20 or under at college entry fell 1.8%. For students age 20-24 at entry, the persistence rate also fell 0.6%; for students over 24 at college entry, the rate fell 1.4%. Students enrolling for their second year are now a prime indicator of college completion (NSCRC, 2014).

Degree Completion

The country's college attainment has steadily declined compared to other nations. In 1990, the U.S. ranked first in the world in 4-year degree attainment among 25-34 year olds. Not so today, as the U.S. ranks twelfth. While half of all people from high-income families from the U.S. have a bachelor's degree by age 25, just 1 in 10 people from low-income families do (Bailey & Dynarski, 2011). With this being said, during the 2014–15 school year, colleges and universities are expected to award 1.0 million associate's degrees, 1.8 million bachelor's degrees, 821,000 master's degrees, and 177,500 doctor's degrees. For the 2012–13 academic year, the average annual price for undergraduate tuition, fees, room, and board was \$15,022 at public institutions, \$39,173 at private nonprofit institutions, and \$23,158 at private for-profit institutions (U.S. Department of Education, 2015). Degree completion predictions are most interesting as the total number of associate's degrees is projected to increase 49% between 2010-11 and 2022-23. The lower cost of attending community college is likely driving this rapid increase. A more modest increase of 17% will occur for bachelor's degree completions over this same period (Hussar & Bailey, 2014).

Needs Assessment of Learning Support

Developmental Education (DE) is at the forefront of many state and federal policy discussions regarding completion rates, funding, and students' preparation for the future workforce (Strawn, 2007). Demographics trends are putting high demands on DE programs nationwide, *Projections of Education to 2019* projected that Hispanics and other minorities enrolled in higher education would increase by 45% from 2008 to 2019 (Hussar and Bailey, 2011). Additionally, Rothkopf (2009) stated that students of color “are not faring as well as others,” and “are not returning for second year” (p. 27). Over the years' studies and research have indicated that students who require one or more developmental courses are not prepared for college academically and may lack the skills and mindset to cope with the rigors of college (Conley, 2005). With the projected demographic changes in higher education enrollment comes the obligation to assess the services and programs that the next generation of students will require if they are to succeed.

Assessing the Needs of Next Generation College Students

Regardless of their level of academic and personal preparation, students who enter postsecondary institutions will require myriad of services before they graduate. From the pre-admission phase of completing financial aid forms and applications through advising and course scheduling to final degree audits and graduation applications, most students require assistance from many campus programs. For students who are less academically prepared and who did not pursue a college preparatory track in high school or those whose high school did not offer solid preparatory programs, access to a comprehensive learning assistance program will be critical to their success. The term *learning assistance* refers to services that range from tutoring and Supplemental Instruction to specific academic preparation courses and is the term of choice because it is inclusive of all sorts of supports available to all students (Arendale, 2010).

Existing studies identify a rising population of students in need of an intervention to ensure future success. Some of the studies that inform the field such as *Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Results* (Bosworth et al, 2007), and the *Developmental Education Best Practices for Adult Learners in Higher Education: Barriers to Success* (Texas Higher Education Coordinating Board, 2013), report on the status of enrollments, persistence, and success rates in DE and the need for current and future interventions. Additionally, various studies have identified issues of students placed into a developmental course who are often first-time in college (FTIC), first generation, and non-traditional student population and their needs to their success.

The diverse nature of students in developmental education requires the use of multiple strategies to approach the issues they face. Over the years, Tinto (2012), Casazza and Silverman (1996), Arendale (2010), Boylan (2002), Maxwell (1997), Casazza and Bauer (2006) and others have focused their research in the area of persistence and success of the college student developing a substantial base of knowledge and expertise to cultivate new or existing programming. Research to support students in a developmental course revolves around the programming found in learning assistance and student service programs, to include

Supplemental Instruction, tutoring, college success curriculum, advising, and many other interventions to support student success and persistence. According to Arendale (2010), "...learning assistance bridges access for a more diverse student body" (p. 1), serving students along a "...continuum between novice and master learner" (p. 2).

Research by Alvarez and Risko suggested that "...educating is a process of deliberate intervention in the lives of students to change the meaning of experience. The change that education prompts empowers students to become self-educating; they learn to take charge of their own experience" (2000, p. 207). This information proposed that education is not only a classroom intervention but an experience of change in mindset to promote their success in postsecondary. Learning assistance in most institutions is positioned at the "crossroads of academic affairs, student affairs, and enrollment management" (Arendale, 2010, p. 54) to serve as the "deliberate intervention" to students requiring support. Research recommends employment of learning assistance programs as a part of an institution's plan to address the persistence and student success (Arendale, 2010; Swail, 2004).

As a starting place for improving learning assistance, the field would benefit from an inventory of emerging best practices that would be available to professionals who plan and supervise campus programs. The resource inventory provides a list of existing knowledge and expertise and availability of a services or programming for learning assistance in an institution. These resources can ultimately be potential partners to leverage programming for the students. In the field of learning assistance and persistence there are several researchers who can be a source of expertise to support planning and implementing a program.

According to Boylan, "research over the past 20 years has validated intra-institutional collaboration as an important component of successful developmental programs" (2002, p. 17). However, it is still up to the team of educators and the institution to breathe life into the activities and curriculum for a learning assistance program. Knowing and using the internal resources and expertise of the college is one thing, but tapping into those resources creates

a synergetic approach that is healthy for both the institution and student.

Confirming what most learning assistance professionals have known for decades, Arendale stated that “learning assistance serves only developmental education students is a myth” (2010, p. 2). Learning assistance serves the entire student body and not just a select few which puts the weight of the institution behind it, meaning that more college resources can be either given directly or indirectly to support its success. According to Casazza and Bauer, “In order to provide the most effective assistance, it is necessary to understand the complexity of the situation and to develop both the personal skills and the institutional systems that will help” (2006, p. 14). It is important to recognize that “...understanding how a students’ life connects to their circumstances and how that connects to their academic performance” (Casazza & Bauer, 2006, p. 27).

Rich and robust research exists that validates the importance of learning assistance as a model to promote persistence and success, as is the evidence supporting activities such as Supplemental Instruction, tutoring, or specific learning skills. Casazza and Silverman (1996) state “...it is imperative for us to be familiar with a broad range of theories and be willing to synthesize ideas from a variety of perspectives in order to provide an integrated approach to helping students achieve” (p. 35). And, Edgecombe (2011) suggests an approach where students are placed in college-level courses and are provided additional instructional support such as Supplemental Instruction to promote student success (p. 16) are just a few of the resources available to faculty, staff, and administrators of learning assistance programs.

Ideally the mission of learning assistance is the work of developing the talent of students (Astin, 1984). Viewing the field of learning assistance from this viewpoint allows stakeholders to see the field as an investment. As developmental education and learning assistance remain the focus of the policy makers and politics, leadership of higher education is an important key “in facing the challenges of profound change,” in which “... there is no substitute for collaboration—people coming together out of common purpose and willing to support one another so all can advance” (Senge, 2000, p. 279).

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Enabling a Community of Practice: Results of the LSCHE Web Portal Survey

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Abstract

The study explored usage patterns of the Learning Support Centers in Higher Education (LSCHE) web portal, an open educational resource (OER) that serves learning support center professionals. Results of an online survey taken by LSCHE users (N=41) tracked their self-reported usage and perceived value of resources on the web portal, which received an average rating of 3.3 out of 5.0 on eight characteristics. LSCHE scored highest on relevance of resources (3.8) and clarity of homepage (3.6). Lowest scores showed a need for improvement in ease of locating resources (2.9), timeliness (2.9), and ease of navigation (3.1). The article will also address the continued evolution of the web portal.

Enabling a Community of Practice: Results of the LSCHE Web Portal Survey

“No one of us is as smart as all of us”—Rick Sheets

The Learning Support Centers in High Education (LSCHE) web portal (www.lsche.net) is an open educational resource (OER) affording postsecondary learning support center (LSC) professionals with over 500 web pages of 5,000 searchable files. The collection includes historical documents, instructional tutor aids, pertinent foundational scholarship, and documents underscoring the importance of management support, professional development, and LSC best practices, among many other topics. In fact, LSCHE is the only web portal to provide actual links to over 1,500 LSC websites from the U.S. and abroad (LSCHE, 2016a). LSCHE bridges the divide between practitioners and resources in terms of relevance, quality, and access. The purpose of this article is to report results of

an online survey taken by LSCHE users, tracking their self-reported usage and their perceived value of resources in addressing their needs. Now with the passing of both co-founders, Frank Christ and Rick Sheets, the article will also address possible future “next steps” in the continued evolution of the web portal.

Review of Literature

The roots of LSCHE began in 1965 as a collection of Frank Christ’s handwritten notes about best practices for procuring and supporting postsecondary student success. By 1973, working as a learning center administrator at California State University, he transformed the notes into the McBee keynote card system. Once this system became obsolete, Christ and a colleague transformed the card system into a computer PLATO database—Programmed Logic for Automatic Teaching Operation, the first computer-based education system developed in 1960 created to support an emergent online community (Van Meer, 2003). Christ called the new system LINDEX, which he described as “an online information system relating to learning skills acquisition and assistance that would enable educational administrators, counselors, and faculty to increase their effectiveness and efficiency in helping students to achieve academic success” (LSCHE, 2016a, para. 7). LINDEX was first introduced to the field at the 1989 College Reading and Learning Association’s annual conference in Seattle. Over the next decade, technical difficulties plagued the database, and information was transferred first to a desktop computer program managed by TeaMate software, then to a PIM (InfoSelect), and finally to a web portal in the mid-1990s under the LSCHE name (LSCHE, 2016a).

LSCHE was a result of a joint venture between Christ and Rick Sheets. At the time, Christ was a visiting scholar at the University of Arizona’s Learning Resource Center (LRC) and Sheets was the LRC director at Paradise Valley College. Sheets served as LSCHE webmaster, developing and maintaining the web portal, and Christ became its content editor (LSCHE, 2016a). In 2000, LSCHE initiated an annual learning center website award, partnered with National College Learning Center Association (NCLCA), and in 2009, Alan Craig became LSCHE’s first associate editor. As a gift to the

profession in 2012, the College Reading and Learning Association (CRLA) hosted the web portal. After the death of Christ in 2012, Sheets purchased LSCHE's own primary domain and hosted the portal independently in support of the Council for Learning Assistance and Developmental Education Associations (CLADEA) and its six member organizations (LSCHE, 2016a). In 2014, Sheets identified learning center experts, faculty members, and graduate students to serve as advisors, editors, and content consultants to collaborate in the expansion of resources available on LSCHE (LSCHE, 2016b). With the death of Sheets in 2016, for a time, the future of LSCHE became uncertain.

Given LSCHE's history of association with many learning support organizations, the web portal serves the function of promoting an online community of practice (CoP) in the learning support field. A CoP is a group of individuals who share a common interest and interact with the goal of building knowledge and improving in the field (McAlister, 2016). The CoP paradigm was founded on a constructivist approach to learning that forefronts the social process of knowledge construction (Panke & Seufert, 2013). The internet has expanded the scope of learning communities in such a way that professionals from across the globe can share resources and collaborate despite distance by providing platforms to share information and resources freely with other practitioners in the professional community. Matyas (2015) posited that, in building these communities, the first step is assembling a library of digitally available resources. OERs are collections of resources for educational purposes that are accessible to the public and free to use (Deimann & Farrow, 2013).

OERs can take many forms but share the goal of leveraging the internet to increase access to educational resources (Panke & Seufert, 2013). In essence, OERs were founded on the belief that "free access to educational material facilitates learning" (Panke & Seufert, 2013, p. 116). Past studies have focused on usage of OERs by students (Atenas, Havemann, & Priego, 2015; Bacisch & Pepler, 2014; Lee, 2010) and teachers (Farrow et al., 2015; Karunanayaka, Naidu, Rajendra, & Ratnayake, 2015); what is less known is how OERs are being used by practitioners in learning assistance centers.

The current study aims to address this gap in knowledge by exploring usage patterns of an OER that specifically serves learning support centers in higher education.

Methods

Given the focus of LSCHE on providing resources specific to learning assistance center professionals, the web portal has the potential to serve an important role within the learning assistance community, providing a space to connect experts and information without the pressures of market forces and private interests. To understand the role of LSCHE more fully, as well as how the web portal functions as a resource provider, the study addressed three questions:

1. How is LSCHE perceived by users?
2. How often is LSCHE visited by practitioners?
3. How is LSCHE being used in the learning support field?

Participants

In order to learn about LSCHE users' preferences as well as the web portal's usage trends, this study targeted educators and practitioners within the field of postsecondary learning support and developmental education (DE). Survey invitations were distributed in fall of 2016 using the "LRNASST" listserv and were made available on the LSCHE homepage. Participants (those that completed the survey [N=41]) were over the age of 18 but were not limited to any demographic characteristic such as sex; ethnic and/or racial group; socioeconomic or immigrant status; level of education; disability status; sexual orientation; gender identity; or language preference, et cetera. The majority of respondents (80.5%) were administrators of learning support centers, with faculty members being the second to use the LSCHE web portal (19.5%). Survey respondents held positions at 4-year (31.7%) and 2-year (26.8%) institutions.

Materials

Creswell (2014) described the aim of survey research as a way to provide a "numeric description of trends, attitude, or opinions of a population" (p. 13). Since the LSCHE web portal was created to serve practitioners in the learning support field, users' comments and perceptions of the LSCHE web portal can inform future

updates. Given the objectives of the current study, the authors utilized a survey to explore the attitudes and usage trends of the learning assistance community. The Survey Monkey website was the only tool used for the collection and storage of survey feedback from participants in this study. In order to measure the perceived convenience and efficacy of the LSCHE web portal, a survey was designed using 10 questions and a short-answer comment section. For example, to indicate opinions of the overall web portal, participants rated it on a scale of 1 (poor) to 5 (excellent) on eight characteristics: clarity of homepage, organization, visual appeal, timeliness, ease of navigation, accuracy of resources, relevance of resources, and ease of locating resources. Survey responses accumulated over four months during the fall academic semester (October through December of 2016).

The study also explored how convenient the organization of the web portal was for users in locating relevant resources and what specific resources users looked for on LSCHE. A scale from 1 to 5 measured the ease of finding resources: not at all easy, not so easy, somewhat easy, very easy, and extremely easy. In addition, participants indicated which types of LSCHE resources were used among the categories of resources from the web portal, such as Calendar, Learners and Learner Assessment, Learning Support Center Management, Online Teaching/Learning, Professional Development, and Publications for the LSC Professional.

For the purpose of measuring usage, participants indicated the frequency of visits to the LSCHE web portal as well as how likely they were to explore, revisit, and recommend the LSCHE web portal to colleagues based on a scale from 1 (not at all likely) to 5 (extremely likely). For the purpose of tracking how LSCHE was being shared, participants had the opportunity to indicate how they first heard about LSCHE with response options such as conference, word-of-mouth referral, and online search.

Results

How is LSCHE perceived by users?

Given the exploratory nature of the questions addressed in the study, the researchers used descriptive statistics to analyze the data gathered from the survey. The web portal received an average

rating of 3.3 out of 5 on eight characteristics, such as timeliness and organization. LSCHE scored highest on relevance of resources (3.80) and clarity of homepage (3.63). Lowest scores showed a need for improvement in ease of locating resources (2.92), timeliness (2.95), and ease of navigation (3.07). A majority of respondents (43.9%, N=41) reported that relevant resources were “somewhat easy to navigate,” followed by 29.27% responding “very easy.”

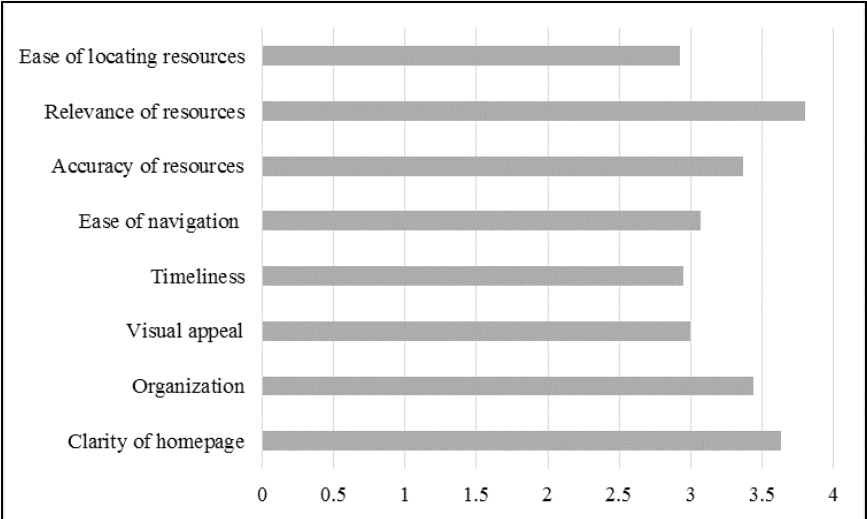


Figure 1. Web portal characteristic ratings from eight surveyed categories based on a five-point rating scale, 1 (poor) to 5 (excellent) from 41 survey participants (N=41).

How often is LSCHE used?

The majority of respondents reported visiting LSCHE several times a year (21.95%, N=41), with 19.51% visiting several times per month and another 19.51% about once a month. Only 2.44% of respondents indicated they visited LSCHE more than once per week. Once accessing LSCHE, more than half (58.54%, N=41) of respondents reported that they were “extremely likely” to explore the web portal, while a quarter of respondents (26.83%) selected “very likely” to explore it. No respondents indicated that they would not recommend LSCHE to a colleague. In addition, 60% (N=41) of respondents reported that they were “extremely likely” to revisit LSCHE; 35% selected “very likely”; 5% selected “no so likely”; and no one selected “somewhat” or “not at all likely.”

How is LSCHE being used in the learning support field?

As an OER, LSCHE is dedicated to connecting practitioners to resources. At the time of the study, 13 resource categories existed on LSCHE. The most commonly used categories were Articles, Presentations, Reviews, and Research (82.93%, N=41) and Learning Support Center Management (70.73%). The least used categories were Technology, Social Media, and MUVES (Multi User Virtual Environments) (7.32%) as well as Winter Institute and LSCHE Archives (9.76%). Respondents were allowed to select more than one category.

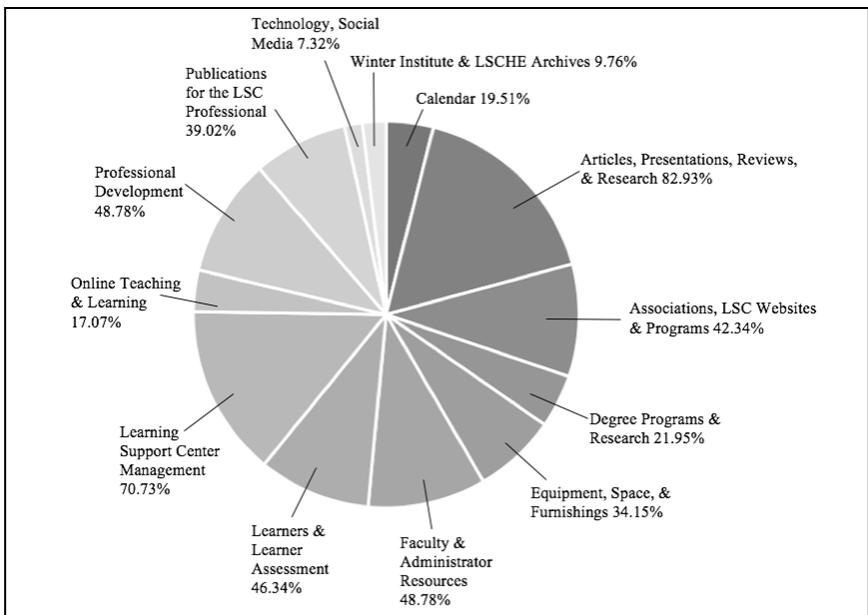


Figure 2. Percentage of use by resource category (N=41).

Discussion

How is LSCHE perceived by users?

When considered as a whole, the results from the survey provided a more complex story of how users utilize LSCHE. Survey results showed that the majority of users found resources at least somewhat easy to locate; however, users were not fully content with many of the web portal's characteristics. Ratings of the various aspects of LSCHE fell within scores of two and three (out of five),

which indicated multiple areas for improvement. Ease of locating resources received the lowest rating (2.92), which is concerning given the primary goal of LSCHE is to connect practitioners with resources. Timeliness of resources earned a slightly higher rating (2.95). The ratings on ease of navigation (3.07) and organization (3.43) may offer insights into the low scores pertaining to locating resources. Organization of LSCHE is essential to ensuring that users can find the resources relevant to their needs.

How often is LSCHE visited by practitioners?

Results from both the survey and comments revealed several areas for improvement on the LSCHE web portal, which may affect the frequency of visits and usage of LSCHE. Findings from the survey indicated that users were displeased with the relevance of the vast resources, many of which were old and out-of-date. For example, many of the online resources published in the early 2000s are no longer relevant with today's technology. Survey results showed that users accessed LSCHE monthly or less frequently. The low rating on relevance of resources reported by survey respondents may also be reflected in the reported frequency of use. Users might visit LSCHE more frequently if the resources provided were more regularly updated.

How is LSCHE being used in the learning support field?

Results showed that usage of LSCHE categories varied significantly, with less than 8% of LSCHE visitors (N=41) using technology and social media resources, while over 80% of LSCHE visitors used resources on articles, presentations, reviews, and research. While many factors may influence the discrepancy in usage of resources, possible factors include web portal organization and the updating of resources. First, the organization of the resource page on LSCHE has Articles, Presentations, Reviews, & Research and Learning Support Center Management at the top of the page—the two categories that received the highest usage rates. In contrast, Technology, Social Media, & MUVES and Winter Institute & LSCHE Archives, which had the lowest usage rates, are located at the bottom of the page. In addition, the technology page has few links to current resources, which also influences usage trends.

Finally, as an OER, LSCHE has the potential to connect

practitioners, yet there is a lack of dialogic function on the web portal itself. Access to the listserv archives is available although difficult to locate on the web portal. In terms of comments, one respondent suggested an “arena for doctoral candidates like myself to pose questions to each other. This might help us locate information and network with each other.”

Despite the need for updates on LSCHE, the survey results indicated the role of LSCHE within a CoP. Users of LSCHE represented a variety of roles in the field with a shared common interest in learning support. The aspect of community surfaced in the high rates reported of recommending LSCHE to colleagues. Almost half of respondents reported being very likely to recommend LSCHE, whereas none reported that they would not recommend it. This shows a building of community around LSCHE.

Limitations

The survey study had some limitations. First, the small sample limited the ability to draw meaningful results. Future studies should include more short-answer questions or follow-up interviews to delve deeper into users’ perceptions of LSCHE’s strengths and weaknesses. Second, the survey was conducted over an academic semester, which, given the finding that users visit LSCHE monthly or less, was an insufficient timespan to reach users. Future studies should examine a larger time period. Tracking usage of the web portal over time could also show trends in LSCHE usage and inform when and how it is updated on a regular basis.

Recommendations

Improving the organization of LSCHE should be a priority, as indicated by the large variation in usage of certain web portal categories over others. Improved web portal organization would also improve ease of locating relevant resources. The majority of respondents (43.9%, N=41) reported that relevant resources were only somewhat easy to locate. A major goal of LSCHE, as an OER, is to provide easy access to online resources. To accomplish this goal, the web portal must be organized in a manner that facilitates the location of resources. One way to accomplish this task would be to update LSCHE and replace the current list-format with broad

categories that could more efficiently direct users to the resources they need.

Ensuring timely updated resources may increase LSCHE usage by current users. Because the resources are updated periodically without a specified time frame, practitioners might not see any benefit to checking the web portal regularly. One suggestion for increasing the relevance of resources would be for LSCHE moderators to begin making regular updates to the resources listed.

Finally, another means to increase LSCHE usage would be to embrace the community-oriented and dialogic possibilities of the OER model. Practitioners may access a listserv for the learning support field from the LSCHE web portal, as well as archives of the listserv discussions; however, a message board or similar feature could help in building a CoP around LSCHE. Providing a platform for practitioners to discuss concerns and network with one another may increase traffic by allowing a larger community access to sharing resources on LSCHE and may help users locate information and network with each other.

Frank Christ's and Rick Sheets' Legacy

As a true CoP, a number of individuals dedicated to LSCHE's future are offering expertise. Alan Craig has now stepped into the role of webmaster, and Ethan Fieldman, co-founder of Tutor Matching Service, and his team have offered to host LSCHE and to provide the technical assistance to make any needed updates and changes at no cost. Karen Agee, Alan Craig, and Russ Hodges will continue to serve as lead advisory team members. Texas State University continues its support, which began in 2014, by offering a 10-hour-a-week doctoral assistantship. The lead author of this article is the current doctoral assistant and, based on this survey, has begun a redesign proposal (Salma Abdul Sultan Amlani, Anthony Megie, and Yuting Lin held assistantship roles previously). LSCHE's additional content assistance is provided by David Arendale, Johanna Dvorak, Hunter Boylan, Lucy MacDonald, Gail McCain, Sandra McGuire, Kate Sanberg, Norm Stahl, Penny Turrentine, Amy Webberman, and Daphne Williams. With this cadre of experts lending their continued dedication and support, the legacy of Christ and Sheets will endure to assist learning assistant professionals for years to come.

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Developing the Preparation in STEM Leadership Programs for Undergraduate Academic Peer Leaders

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Abstract

The authors introduce the Preparation in STEM Leadership Program at Rutgers, The State University of New Jersey. This NSF-Funded program and research study creates a centralized training program for peer leaders that includes a battery of assessments to evaluate peer leaders' content knowledge, pedagogical knowledge, communication skills, and leadership practices over time. This article introduces readers to the program and its theoretical background, explains some lessons learned regarding the program design and implementation, and briefly describes preliminary findings on a broad-scale from peer leaders' assessments intended to measure skills and content development.

Introduction

In any given college or university, there often exists a variety of academic peer leadership opportunities available to students. Academic peer leadership positions for undergraduate students range from tutoring in one-on-one or group settings to facilitating small-

group study sessions, leading large review sessions, or providing in-class learning support. Because each program has its own place within a campus' academic community, faculty and staff interested in implementing academic support programs will choose one or more programs to address the diverse needs and wants of their students and instructors, while considering their access to spaces and budgetary requirements. All of these factors result in significant variation in the training, evaluation, and instructional methods of the peer leaders.

Although Rutgers University employs many peer leaders through its various academic support programs, there are no standard expectations for the amount, type, or frequency of training programs for peer leaders. We propose that employment in peer leader positions provides peer leaders with the opportunity to develop their content knowledge and prepare for success in the STEM workforce; however, we also suppose that the lack of consistency across programs leads to variability in the value of leadership positions to students' professional development. Through the Preparation in STEM Leadership (PSL) Program, we have created an opportunity for peer leaders from various programs to participate in a standard training program and have developed a series of assessment measures to study their content knowledge, pedagogical knowledge, leadership practices, and communication skills. Through the implementation and assessment of this program, we intend to identify the elements of peer leader training that are particularly impactful and the specific areas of skill and knowledge that are enhanced through employment as a peer leader.

If successful, the benefits of this program will reach beyond impacting the career opportunities of participating peer leaders. Because peer leaders in the PSL Program will receive increased training in content knowledge, communication skills, and research-based instructional strategies, a logical outcome would be that the students they serve benefit by experiencing increased learning gains (Figure 1).

In this article, we introduce the PSL program model and provide examples of assessments that can be integrated into the practices of peer leader training programs. We provide some initial

results as samples of the type of data that can be collected from these assessment practices. We also discuss lessons learned and remaining questions. Future publications will include extended analyses of the assessment results as well as discussions of how such measures are being used to inform decisions about the structure, content, and format of our training program.

Relevant Literature

Research has uncovered “a number of positive effects of peer education on student success,” such as “increased satisfaction, persistence and retention, social development, and academic performance” (Ganser & Kennedy, 2012, p. 17). Kuh (2008) highlighted a set of “high impact practices” that result in “substantial educational benefits” (p. 1), and the positive results of these practices are particularly notable for underprepared and historically underserved populations. Kuh proposes teaching and learning practices that “have been widely tested and have been shown to be beneficial for college students from many backgrounds” (p. 9) are effective because they involve one or more of the following characteristics:

- demand considerable time and effort,
- place students in situations that demand interaction with faculty and with one another,
- increase the likelihood of contact with people from diverse backgrounds,
- involve frequent feedback,
- provide opportunities for higher level learning, and
- deepen the undergraduate experience through increased self-awareness (p. 14-17).

When part of a well-designed program, peer leader positions involve all of these characteristics. They demand considerable time and effort through training, lesson planning, and instructional time. The peer leaders meet regularly with peers and instructors of diverse backgrounds and receive frequent feedback from their supervisors, peers, and instructors. They are also taught to engage their students in higher-level learning and metacognitive practices, which requires

the peer leaders themselves to engage in such practices as they prepare lessons and discuss course activities with their fellow peer leaders and course instructors.

As universities focus on educating students for success in the STEM workforce, they are increasingly searching for ways to help students develop 21st century skills because individuals in STEM fields “must be able to adapt to new work environments, communicate using a variety of mediums, and interact effectively with others from diverse cultures” (Koenig, 2011, p. viii). In *Education for life and work: Developing transferable knowledge and skills in the 21st Century*, Pellegrino & Hilton (2012) define 21st century skills as fitting into three primary categories: cognitive, intrapersonal, and interpersonal (p. 21). Peer leadership promotes development in all three of these categories.

Peer leadership training, when implemented according to best practices, emphasizes the “application of knowledge, skills, and responsibilities to new settings and complex problems” (Shook & Keup, 2012, p. 10). The emphasis of these applications leads to the application and development of “skills and capabilities such as self-direction, leadership, oral communication, intercultural skills, civic engagement, teamwork, and critical thinking,” all of which are “identified as twenty-first century learning objectives for college and that are also highly desirable skills among employers” (Shook & Keup, 2012, p. 10). Students who undergo such training and serve in peer leader positions have reported “increased confidence in their ability to manage group dynamics, facilitate learning, and empathize with their students” (Shook & Keup, 2012, p. 10), skills that would equip them to become leaders in the STEM workforce. Peer leaders also learn to address “real-world,” ill-defined problems that “require multiple areas of knowledge and multiple modes of inquiry” (Shook & Keup, 2012, p. 11). Moreover, Tingson-Gatuz (2009) found that several studies have demonstrated growth in critical thinking, problem solving, and group processing and that peer mentoring opportunities have the potential to “increase leadership capacity among students-of-color” (p. 3) and “after graduation, these peer leaders can engage in higher levels of leadership both in professional and community capacities” (p. 87). We anticipate that peer leadership

positions specifically focused on academic discourse would have similar impacts on critical thinking, problem solving, and group processing for students-of-color, who have historically been under-represented in STEM majors and, therefore, in leadership positions within the STEM workforce.

Research findings have revealed that “neither success nor sustainability can be attained in a peer leadership program without thoughtful and intentional planning, management, and training” (Esplin, Seabold, & Pinnegar, 2012, p. 85). Therefore, we believe that creating a standard for peer leader training that can be assessed rigorously and implemented across multiple programs will have far-reaching effects for peer leaders, the students they serve, and academic support services as a whole. Successful training programs involve intensive initial preparation with ongoing training and utilize methods that are “as hands-on, applicable, and engaging as possible” and incorporate “pedagogical and leadership theories, models, approaches, and research findings” (Esplin et al., 2012, p.94), which are already part of our pedagogy course and our ongoing trainings. Both the course and the training workshops engage students in practical applications of learning theory specific to their individual roles and fields of study, as well as introduce them to educational research through readings and group discussions. Our training programs are structured with an iterative cycle that involves continuous reflection on teaching and learning, as well as gradually increased complexity. It can be envisioned as a type of spiral that involves revisiting and expanding on previous learning and experience using theory and educational research, as demonstrated in Figure 2. Steps 1-3 take place during our initial, intensive Peer Leader Training program (two days) and are revisited with more advanced topics throughout the pedagogy course and ongoing workshops, which both expand on the initial training by including steps 4-7.

Two national models of academic support programs that have specifically addressed peer leader training in their theoretical design are Supplemental Instruction (SI; Stone & Jacobs, 2006) and the Learning Assistant (LA) Model (Otero, Pollock, & Finkelstein, 2010). While both the SI and LA models include pedagogical and content components, only the LA model explicitly requires these components. In SI implementations, one or both of these

components might not be included, which is evidenced by SI developer Martin's quote: "the single most common reason for the failure of an SI program is the lack of consistent training and supervision for the leaders" (Burmeister, 1996, p. 33). While the SI model allows for interpretation and modification of the model, the LA model is more restrictive, requiring specific elements such as participation in a sustained pedagogy course or seminar for at least one semester while serving as a learning assistant and consistent content meetings with the course instructor(s).

Institutional Context

Rutgers University is a land-grant R1 institution that serves both New Jersey residents and international students. The university currently enrolls more than 65,000 students from all 50 states and more than 115 countries. More than half of Rutgers University students identify as non-Caucasian and more than 80% receive financial aid, making Rutgers University a diverse campus both culturally and socioeconomically. Because of its diverse student population, Rutgers University provides many programs that promote the retention and success of students from underrepresented minority groups in STEM fields, and the Learning Centers (LCs) have longstanding partnerships with these programs. The Rutgers -- New Brunswick campus offers STEM degrees through multiple schools within the university. The research opportunities, the large and increasing number of academic support programs, and the many leadership opportunities available to students at Rutgers University make this institution an ideal site for the assessment of peer leader development opportunities.

Rutgers University's Learning Centers

The LCs provide four core service programs, including academic coaching, writing coaching, walk-in group tutoring, and the Learning Assistant (LA) Program, which follows the LA Model (Otero et al., 2010). Peer Leader Training, our fifth core program, is provided to our own student employees and to other programs that utilize peer leaders, such as group and one-on-one tutors, supplemental instruction leaders, peer mentors, teaching interns, and study group leaders. Training requirements vary among the different

peer leader positions on campus. Several programs require their peer leaders to attend the New Peer Leader Training sessions offered by the LCs at the beginning of the semester and a few programs request specific training from the LCs for their peer leaders during the semester, while other programs do not utilize any of the trainings offered at the LCs.

Pedagogy Courses

The LCs' LA Program includes a required 300-level, 3-credit pedagogy course for all first-semester learning assistants. The course focuses on effective methods of college teaching and instructional strategies. Students participate in activities designed to increase their understanding of the role of a peer educator. The instructional strategies taught in this class are grounded in principles of student-centered, active, cooperative learning environments and differentiated classroom instruction. Through this course, students learn how to work with course instructors and teaching assistants to facilitate small-group learning among students in their lectures and recitations, lead study groups (which involves designing student-centered activities and facilitating small group learning), and help individuals and small groups of students during tutoring sessions by engaging in dialogic discourse and utilizing effective questioning techniques.

Peer leaders teaching in Rutgers University's First-Year Interest Group Seminars (FIGS) are required to take a 300-level, 3-credit pedagogy course that is related to their role as peer instructors. Although the LA and FIGS pedagogy courses share a common name and similar course number, they are distinct courses that are structured differently to meet the unique needs of the peer leaders in each program. Undergraduate teaching assistants in general chemistry laboratory courses are required to co-enroll in a 400-level, 3-credit course associated with their position. The course's goals for students are to develop teaching, supervisory, organizational, and communication skills by teaching in the laboratory ("Chemistry 499," n.d., para. 2).

The general chemistry Teaching Interns (TI) Program includes an optional pedagogy course as part of a larger program that culminates in a "Certificate of Chemistry Education." The chemistry interns' 300-level, 3-credit pedagogy course was modeled after the

LA Program's pedagogy course and has some similar structure and assignments (flipped classroom structure, in-class activities, peer observation, midterm exam, teaching philosophy paper). However, the chemistry course is specific to the discipline of chemistry (mostly general chemistry topics) and includes TIs' time working with students as part of the students' time spent in class.

PSL Program Design

Any undergraduate student who had at least completed his/her first year of college and who had secured a peer leader position related to one or more STEM disciplines was eligible to apply to participate in the PSL program. The term "peer leader" includes, but is not limited to, tutors; study group leaders, supplemental instruction, or review sessions; undergraduate teaching assistants (TAs), teaching interns, or peer mentors; and learning assistants.

Eligible peer leader positions required the facilitation of learning of STEM content because the program included a strong pedagogical component to the training, and we were interested in assessing learning gains in disciplinary content. Consequently, students whose positions were solely associated with general mentoring, counseling, or academic coaching were not eligible to participate in the PSL program. Students applied over the summer and participants were chosen from among those who applied based on year in school, program affiliation (to ensure representation from as many peer leader programs as possible), and short answer responses in the application form that asked the candidate to describe his/her interest in peer instruction, interest in leadership, career goals, a statement of teaching philosophy, and potential for growth through participation in the PSL program. The general timeline of activities is provided in Table 1.

All first-year participants in the PSL program were required to attend the New Peer Leader Training days at the beginning of the fall semester and co-enroll in the 300-level, 3-credit pedagogy course that, up until this point, was only offered to LAs. By expanding this course to include participants in the PSL program, the LCs provided an opportunity for peer leaders across programs to receive in-depth training in pedagogy and research-based instructional strategies.

Those peer leaders who enrolled in the PSL program were also required to participate in a minimum of four 80-minute training or professional development workshops related to pedagogy and leadership each semester (example topics provided in Figure 2). They were also encouraged to attend a seminar each semester offered by a professional in the STEM industry, but attendance was not mandatory for those who had a scheduling conflict. All first-year PSL Program participants who successfully completed the minimum requirements earned a \$500 scholarship in both the fall and spring semesters.

Assessment and Evaluation

To measure the effects of the PSL Program on the peer leaders' development across several dimensions, pre- and post-semester data was collected by asking the peer leaders to respond to several assessment tools measuring content development, leadership practices, pedagogical knowledge, and communication skills. Peer leaders were also asked to submit a teaching philosophy statement, and to be formally observed in their position. The assessment instruments are provided in Table 2. Whenever possible, discipline-specific assessments (e.g., concept inventories or concept mapping) were used to measure content development. Teaching philosophy statements were collected upon application to the PSL program. These statements were also collected as a summative assessment measure within the pedagogy course. All protocols were approved by Rutgers' Institutional Review Board, and only data from students providing informed consent are included in this report.

During training sessions, the pre-assessments were administered in the following order: 1) teaching and learning concept map, 2) discipline-specific content map, 3) concept inventory, and 4) beliefs about physical sciences survey. Specific assessment tools with references can be found in Table 2. Unfinished surveys were completed independently under the supervision of the Program Coordinator by the third week of September. The beliefs about physical sciences survey, the Student Leadership Practices Inventory (LPI), COMSA-R2 communication survey, and the submission of the teaching philosophy statements were all completed online. This combination of assessments was designed to use two methods to

evaluate students' content knowledge (concept maps and inventories) and ideas about teaching (concept maps and teaching philosophy statements). The multiple assessment tools complement one another and enable students to demonstrate their knowledge using different approaches to account for variance in learning styles. The LPI and COMSA were administered to evaluate changes in 21st Century skills (group management, communication, and interpersonal skills) needed in increasingly collaborative work environments within the STEM fields.

The peer leaders' formal evaluation occurred between the 5th and 15th week of the semester in both fall and spring semester (Tables 1 & 3). By the 5th week of the semester, most courses for which peer leaders provide a service have administered the first exam to the students, and peer leaders have had time to develop a rapport with the students they serve.

Data was collected from a control group of students serving as peer leaders who were not enrolled in the PSL program. This data was collected to help distinguish between the impact of serving as a peer leader and the impact of the training provided for peer leaders. We assumed that some learning gains would result from working in a peer leader position, regardless of whether or not the peer leader participated in regular training and professional development practices. We intended to explore 1) the learning gains experienced through service as a peer leader regardless of training, 2) the learning gains experienced as a result of rigorous and structured training and professional development practices, and 3) the difference in outcomes between those peer leaders participating in regular training and those not participating. The control group for this study was larger than the treatment group because assessments were incorporated into the regular training practices of the LCs, and, consequently, any peer leader could choose to participate in the research study. Because of the resources required to implement the PSL program (e.g., scholarships, pedagogy instructors), the PSL program was limited to 30 participants each semester. However, the cohorts consisted of fewer than 30 students because of the significant time commitments from students; most peer leaders are full-time students and have at least one other job on campus

Cohort Participants

We invited other peer leaders employed at our LCs and in other programs to participate in the research study. These control group peer leaders were compensated through human subjects payments for their time completing assessments if they agreed to participate in the research study. Of the 324 non-PSL Peer Leaders for whom we collected one or more assessment measures during the past two years, 208 (64%) provided informed consent. Of the 37 PSL participants, 34 (92%) provided informed consent for the research study. Only those students providing informed consent are included in the data and analysis discussed herein.

In the first year of the PSL Program, 24 students participated in the PSL Program, eight of whom were learning assistants employed at the LCs. The other participants had positions as tutors, supplemental instructors, study group leaders, calculus peer mentors, undergraduate teaching assistants, and chemistry teaching interns. Both our first and second cohorts of PSL participants included a range of disciplinary assignments, not all of which aligned with each participant's major. Of the 34 PSL participants, 56% self-identified as female, while 41% self-identified as male and 2% chose not to identify, 30% were second-year students, 40% were third-year students, and 30% were students in their senior year (see Table 3).

Data and Results

Overview of Data Collected

All PSL participants completed assessments and were observed. However, participants could choose whether or not they would allow their data to be included in analysis for public dissemination. Not all types of data resulted in the same response rate.

As an example, during the fall 2016 pre-assessment period, the highest assessment responses from all peer leaders were for the teaching and learning concept map (N=198) and disciplinary concept maps (N=121). The concept inventories (N=90) and beliefs about learning science survey (N=76) had moderate response rates, but it is important to remember that these surveys were not available or applicable for all disciplines. The online leadership practices inventory (N=25) and communications survey (N=47) had relatively

low response rates, while the teaching philosophy statement response rate was high for peer leaders in the pedagogy course because it was a required assignment ($N=120$), but low for all other peer leaders ($N=0$).

Due to the variance within peer leader positions at the university, some are observed on a regular basis as part of the program's policy and others are not. Of the peer leaders included in this study (both PSL and control group), most were observed (PSL $N=7$). For those PSL participants who were not observed ($N=6$), the observation did not occur because of the nature of the position (e.g., no interaction between peer leader and students) or because of scheduling constraints. Anecdotally, PSL participants who normally would not be observed in their position expressed appreciation for the opportunity to receive feedback.

Preliminary Findings

We are in the process of collecting data from year 2 participants and analyzing the data we have collected from both year 1 and year 2 cohorts. We will disseminate our findings through several publications once the program pilot has been completed. Below are some sample findings to demonstrate the type of information we are collecting and how that information is used to inform the direction of our existing training program.

Content Knowledge. One example of evaluating content knowledge involves administering concept inventories. Best practices for using concept inventories include administering the entire test with the same order of questions in their original wording both at the beginning of the semester (or before direct instruction on the topic) and again at the end of the semester (or after students have been formally tested on the topic through a course exam) (Madsen et al., 2016). Physport's data explorer was used to analyze physics concept inventory results for matched student data (www.physport.org/DataExplorer/Preview.cfm). In the first year cohort, 15 peer leaders completed Thornton and Sokoloff's (1998) Force and Motion Conceptual Evaluation (FMCE) concept inventory at both the beginning and end of the fall semester. The FMCE measures students' conceptual understanding of Newtonian mechanics, including kinematics, forces, energy, and graphing. These students'

average score increased from $65\% \pm 6\%$ on the pre-test to $76\% \pm 6\%$ on the post-test, with an average normalized gain of 0.40 ± 0.10 . A students' normalized gain score is calculated by dividing the difference in points on the post and the pre-test by the potential points the student could improve upon after the pre-test (i.e., $100\% - \text{pre score}$). Seven peer leaders completed the FMCE at the beginning of the fall semester and also at the end of the spring semester. For this year-long matched sample, the students' average score increased from $65\% \pm 6\%$ on the pre-test to $82\% \pm 8\%$ on the post-test, with an average normalized gain of 0.24 ± 0.15 . We are encouraged by these results for first-semester physics concepts, which indicate students are improving their content knowledge during the time they are participating as peer leaders.

Leadership Practices. The Student Leadership Practices Inventory (Kouzes & Posner, 1998) results revealed some notable trends in peer leaders' self-perceptions of their leadership practices. This inventory requires students to rank the frequency of their use of specific leadership behaviors on a Likert scale of 1-5. These behaviors correspond to five leadership practices. The "Model the Way" practice is to "clarify values by finding your voice and affirming shared values" (The Student Leadership Challenge, 2017). It also refers to practices that "set the example by aligning actions with shared values." "Inspire a Shared Vision," refers to practices that "envision the future by imagining exciting and ennobling possibilities" or "enlist others in a common vision by appealing to shared aspirations." "Encourage the Heart," is to "recognize contributions by showing appreciation for individual excellence" or to "celebrate the values and victories by creating a spirit of community." "Enable Others to Act," refers to practices that "foster collaboration by building trust and facilitating relationships" and "strengthen others by increasing self-determination and developing competence." Finally, "Challenge the Process" refers to practices that "search for opportunities by seizing the initiative and by looking outward for innovative ways to improve" or "experiment and take risks by constantly generating small wins and learning from experience." The total points for each practice are calculated as the student's score for each practice, which can range from 6 (responding

with a ranking of one for each of the six items associated with that category) to 30 (responding with a ranking of five for each of the six items associated with that category). Peer leaders' scores for each practice were collected, as well as their rankings for each behavior. Here we address the general trends of the group as a whole; detailed analyses by practice and behavior will be discussed in a subsequent publication. This inventory was not intended to be evaluative, in that no one category is necessarily more desirable than another; rather, our intention is to identify trends in how peer leaders' practices may change in response to their experiences as peer leaders, and the training they receive, to better understand how such positions may impact the type of leadership practices these students value and utilize.

Figure 4 shows the mean scores from all students for the five practices of the LPI across three-waves of data (beginning of fall, end of fall, and beginning of spring semesters). The plot shows a general pattern that students achieved a higher score in the mid-test than the first wave and then decreased score at the post-test. Splitting data by group, we can track pattern differences across groups (Figure 5). The patterns of the PSL group and control group are not identical; for example, for "Model the way", the control group (solid line) tended to decrease at the end of the school year, while PSL group (dash line) tended to increase. The same pattern was observed in the "Inspire a shared vision" and "Challenge the process" practices. The decrease in scores for the post-test has led to additional research questions. For example, because this inventory relies on self-report, the decrease could indicate increased self-awareness of one's practices or a change in how peer leaders understand each behavior to which they responded. If, through their training and practice as a peer leader, they are becoming increasingly aware of improvements they can make in their practices, they may report lower scores on the post-test than the pre-test simply because their expectation for the particular behavior has been increased or their understanding of the behavior has been refined. Additional qualitative data such as interviews or follow-up surveys would be needed to better understand the changes in self-reported behaviors.

Gender had a marginally significant effect on “Model the way;” females generally reported higher than males. Two significant effects were found for “Challenge the process,” the main effect of wave and the interaction of wave by group. The relationship of the two effects has been delineated in Figure 4; although at the beginning, control groups had a higher average score than the PSL group, at the post-test, the PSL group outperformed the control group. For the remaining two practices, no significant effect was found (Table 4) via an analysis of variance (ANOVA) conducted using SPSS (version 24).

Pedagogy. Concept maps and teaching philosophy statements were used to study changes in peer leaders’ ideas about teaching and learning before and after a semester of peer leader training. As a preliminary assessment of pedagogical change over time, we coded thesis statements within the teaching philosophies by topic and compared the frequency of each topic in pre-semester and post-semester drafts. Identifying the changes that the peer leaders made to their thesis statements over the course of the semester could indicate changes in how they value each topic and find it relevant to their work as peer leaders. All coding was managed using QSR International’s NVivo 10 Software.

We were able to collect both pre-semester and post-semester teaching philosophy statements from seventeen PSL participants and from three control group peer leaders. All participants except for one in the control group had completed the pedagogy course. Table 5 contains the number of instances for each topic in the pre-semester and post-semester statements. Overall, specific learning theories, methods, and practices were more frequently mentioned in post-semester thesis statements than pre-semester statements. There was more variety of learning theory, methods, and practice included in post-semester thesis statements; also, peer leaders were more specific in the learning methods and practices identified. For example, they discussed dialogic discourse rather than just discourse and collaborative learning in place of more general group work. The most common learning theories identified throughout the statements were collaborative or cooperative learning, dialogic discourse, and meaningful learning. There was increased discussion of the learning environment in the post-semester drafts, as peer leaders often used descriptors such as “positive”, “safe”, and “student-centered.”

Because the classroom environment became a prominent topic in post-semester drafts, we looked more closely at the descriptors used to discuss classroom environment (Table 6). In pre-semester drafts, classroom environment was mentioned in 6 statements (20% of total statements), and a total of 8 descriptors were used. In post-semester drafts, it was mentioned in 22 statements (73% of total statements) and 32 descriptors were used. General descriptors “effective”, “optimal”, “best”, “ideal” were mentioned with equal frequency in both drafts, but the specific descriptors “safe” and “comfortable” increased from 0 to 6 instances and “student-centered” increased from 0 to 4 instances. These trends suggest an increase in peer leaders’ valuation of the classroom environment and that they developed both an increasingly specific understanding of the characteristics of an effective classroom environment and a vocabulary to express these views. As we continue to evaluate these statements for additional trends, we will be modifying the pedagogy course to more fully address concepts that do not appear prominently in the philosophy statements.

Peer Leaders’ Perceptions of Program Elements. From the qualitative data, we observed that peer leaders describe the pedagogy course as the most critical component of their training and professional development.

“The pedagogy course helped me a lot more than the other [PD trainings] because I would have it every week, and I was exposed to it more. Like it was literally learning how to learn every week, which sticks with you more than you just going to four workshops every semester because you could easily just get those done and get them out of the way, and not think about them ever again. But with the pedagogy course it sticks with you every week, and I think that helps- that helped me learn everything and apply it, too.”

Fewer students described the importance and value of the peer leader trainings, but most peer leaders mentioned the trainings in their interviews. Interestingly, the interview data revealed that peer leaders do not all define training and professional development the same way, and the definition of these terms can lead to confusion about the relevance or usefulness of the peer leader training workshops offered

as part of the PSL Program. For example, two peer leaders believed the terms were synonyms; these peer leaders both viewed the workshops as a supplement to the pedagogy course. One described training as “needed in order for peer leaders to do their job” and professional development as “general skills or concepts that could be applied to any profession and might not necessarily help the peer leader perform his/her job.” For this student, the workshops were mostly considered professional development; whereas, the pedagogy course was described as training because it specifically related to being an academic peer leader. On the other hand, another peer leader described training in a negative tone—as “teaching someone to do a specific task”—and described professional development in a positive tone—as “helping someone develop skills that lead to professionalism.” One student viewed training as a subset of professional development, but not the other way around. Yet, other students did not feel a need to distinguish between these two terms. Exploring how peer leaders viewed the terms *training* and *professional development* provides insight to program directors and enables them to frame these experiences positively within the program requirements. For example, by framing the workshops as activities that contribute positively to students’ professional development, as opposed to framing them as job training, program directors might garner more participation and engagement related to this requirement.

For the first cohort of participants, the invited seminars seemed to have a minimal impact on the peer leaders. The seminar component of the program revealed one challenge in that it is a one-time activity each semester, and if the peer leaders have scheduling conflicts, they were excused from the activity. While the PSL program directors observed that the peer leaders who attended these seminars enjoyed hearing about how leadership, communication skills, and teamwork are valued in industry, no participants referenced this programmatic component in their interviews when asked about essential aspects of an academic peer leader program.

Some peer leaders could see an obvious connection between their work as a peer leader and their future careers; other peer leaders had to think about this connection when asked about it in an interview. An example of the latter occurred when a peer leader who was a tutor was asked whether or not any of the peer leader training

workshops would help her in her future career. After describing how the training workshops helped her be a tutor, she thought more about the workshops she had attended and replied, “This semester I went to *Thinking Critically* and then *Managing Group Sessions*. That actually helped me a lot for tutoring, but, I mean, if I was a boss in my future career, then I guess it would help me manage groups and stuff.” By answering this interview question, this peer leader reasoned out that the training workshop was in fact related to her future career in industry, especially if she were to secure a managerial position.

Lessons Learned

As expected, it was challenging to collect assessment data from peer leaders via online surveys, emailed written responses, or even through a scheduled meeting to complete paper-and-pencil concept maps and concept inventories. Response rates were highest when we included assessments as part of training workshops and the pedagogy course. We asked everyone to submit assessments as part of the training session, and then only used the responses from peer leaders who provided consent. We also wanted to demonstrate to students that we valued the assessments and were willing to use time during workshops for this activity. While we expected that the 10-15 minute online surveys would be the most attractive to students, we found that many would forget, or were not willing, to take the survey on their own time, even with monetary incentives in the form of human subjects payments. Similarly, it was difficult to collect baseline data the year prior to the first PSL cohort. One challenge was that we did not include human subjects payments, so there was no incentive for students to take the assessments outside of their normal peer leader position activities. This was one reason we decided to incorporate the assessments into our training and pedagogy course sessions during the first year of the program.

When considering the use of online assessments that are administered through a third-party (e.g., LPI & COMSA-R2), it is important to consider validity and reliability measures, the associated costs of each survey, and the format in which data is provided back to the program staff. For example, some third-party survey developers will not provide validity and reliability measures. We

considered this as a warning sign and were only interested in utilizing surveys in which validity and reliability was established and shared with users. Cost structures for surveys vary and some provided more flexibility in distribution than others. The format of the survey results is another important consideration because, for example, some third party developers will not provide raw data, only aggregate or summarized results. While these reports can be useful, if the user intends to look closer at the data, perform his/her own statistical analyses, or view results at the participant level, the raw data is needed. We chose the LPI and COMSA-R2 surveys because they met our standards for all of these criteria related to validity and reliability, cost, and availability of data.

Another challenge to the PSL program design was that not all programs hire their peer leaders before the fall semester starts. Unfortunately, these students are not identified as being eligible for PSL participation early enough to be recruited to, or to apply for, the PSL program. While we allowed two peer leaders to join the program in the second week of the semester, joining in the third week or later in the semester would be difficult because the participant would have missed two weeks of the pedagogy course, new peer leader training workshops, and the window to complete pre-survey assessments. We are considering an alternative model of the pedagogy course that would start in week three or four of the semester and be taught at an accelerated pace in order to provide the same amount and level of content and class activities. We are also offering the pedagogy course in the spring semester during the second year of the program in the hopes that we can attract students who were hired in the fall semester for year-long positions.

The final challenge when working with peer leaders from other programs is that the activities of the peer leader position might not align with the types of activities we promote at the LCs: creating a positive learning environment that fosters collaborative learning to develop independence. The peer leader trainings and pedagogy course are both designed with opportunities for peer leaders to learn about theory and best practices related to active and collaborative learning and for the peer leaders to reflect on their interactions with students. For PSL participants who are in positions

that might include more traditional “teaching” activities—leading instructor-centered review sessions, assisting a teaching assistant with administrative duties, grading, directly answering questions—the content and activities in the pedagogy course and peer leader trainings do not align with what they do in their positions. Moreover, the formal job observation is not always possible or effective because the peer leader might not be interacting with students enough for the observer to be able to judge the peer leaders’ performance.

Limitations of the Study

While we collected data from 71 peer leaders who were not in the PSL program, the majority of this “control group” population consisted of LC learning assistants. Our Learning Assistant (LA) program follows the LA program model developed at UC Boulder (Otero et al., 2010). The program requires LAs to participate in staff meetings with the course instructors and to co-enroll in a pedagogy course. Our PSL program extends these requirements to include participation in additional training and professional development workshops and provides the opportunity for such development to peer leaders working in other positions, such as tutors and study group leaders. Consequently, our control group represents a biased sample of peer leaders who already participate in a large amount of training and professional development within their program. We hope to find better ways to include non-LA peer leaders in our study to observe the effects of a wider variety of required training and professional development activities across institutional programs.

Implications for Future Research

While it does not fall within the scope of this particular project, future studies should investigate the actual career outcomes of students in peer leader positions. We are investigating effective methods for tracking students post-graduation to identify a method for evaluating the extent to which the skills developed through peer leader positions translate to success in the STEM workforce. In addition, a study of former peer leaders’ perceptions of the value of their positions to their future careers would add significantly to this body of knowledge.

We are collaborating with faculty in computer science to extend this research and compare the assessment of computer science learning assistants' content knowledge gains to that of their peers who are not academic peer leaders, but who are taking similar upper-level courses. We expect that this comparison will help determine whether gains in content knowledge can be attributed to the peer leader position (and subsequent re-learning and teaching of the content in the lower level courses) and not only to the fact that these students are taking upper level courses which might review or build upon the concepts taught at the lower level.

Conclusions

As we begin the last semester of our two-year pilot program, we believe the evidence suggests that such a program has potential to lead to gains in peer leaders' skill and knowledge development, though further analysis is required to identify the specific elements of the program that have the highest impact on these developments and to compare peer leaders to non-peer leaders in the same major. We understand that centralized programs such as this may not be feasible for all institutions and programs because constraints such as hiring timelines, peer leaders' availability, and financial resources may limit the degree of training and assessment that can be enacted.

Overall, we are optimistic about the model and, with some revisions to the timeline and methods of survey distribution, intend to build upon our Peer Leader Training Program using the knowledge gained from evaluating peer leaders' development over time. Our training program is being completely redesigned this coming year and we will be using the assessment results we gather through these practices to inform decisions about program change. We will be providing more instruction provided by faculty in each discipline in course content for all peer leader roles and will be providing more opportunities for assessment and feedback than we have previously. We intend to build assessment practices into the regular activities of the Peer Leader Training Program as a way to continue the evaluation of our training methods without creating assessment fatigue. We hope to see similar assessment measures replicated nationally so that benchmarks can be defined and the value of peer leader positions

to students' skill development and content knowledge gains become widely publicized. We believe that the dissemination of such research will aid academic support services in gaining funding and institutional support for programs utilizing peer-led and near-peer instruction as the role of these positions in students' 21st century skills development is better understood.

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Appendices

Appendix A: Figures

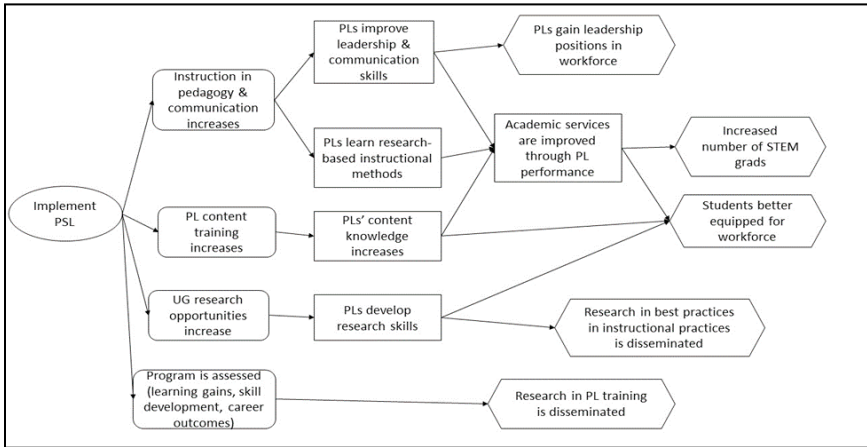


Figure 1. Expected outcomes (hexagons) of the PSL program based on program activities (rounded rectangles) and associated skill and content development (rectangles)

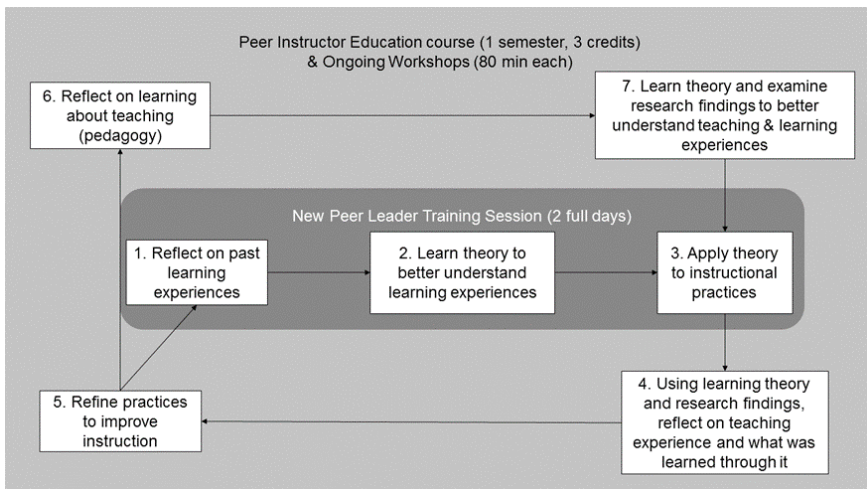


Figure 2. Training program iterative cycle

Access and Equity <ul style="list-style-type: none">• Working with students with disabilities• Diversity and microaggressions• Understanding challenges faced by underserved populations	Leadership <ul style="list-style-type: none">• Academic integrity & professionalism• Leadership practices• Managing groups• Mentor training and conflict resolution
Communication <ul style="list-style-type: none">• Crucial conversations: Managing conflict• Effective questioning• Structuring the conversation• Communication skills• Student dependency & how to address it• Communicating your peer leader position to potential employers	Learning Theory <ul style="list-style-type: none">• Understanding and utilizing mental models• Understanding and implementing metacognition: Reflection on instructional methods• Critical thinking skills and strategies• Formative assessment• Domains of knowledge in STEM fields

Figure 3. Examples of training and professional development workshops

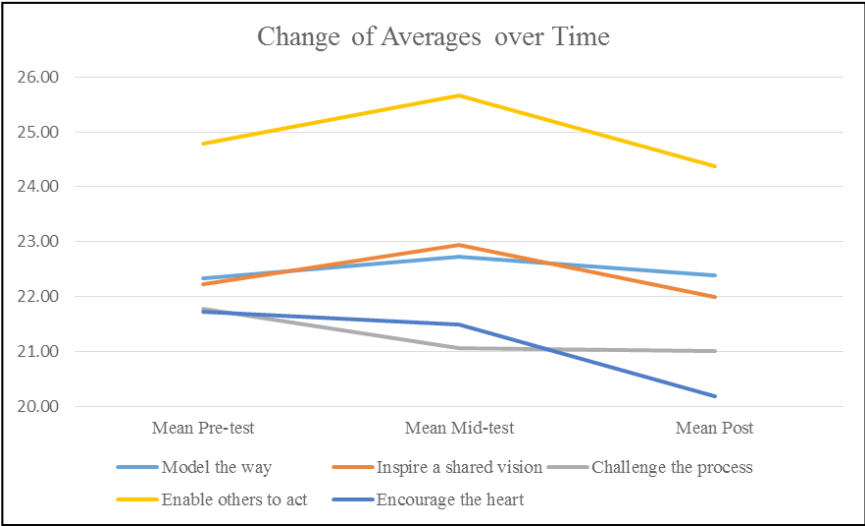


Figure 4. LPI changes of average over time
Note. Total scores range from 6-30 per category.

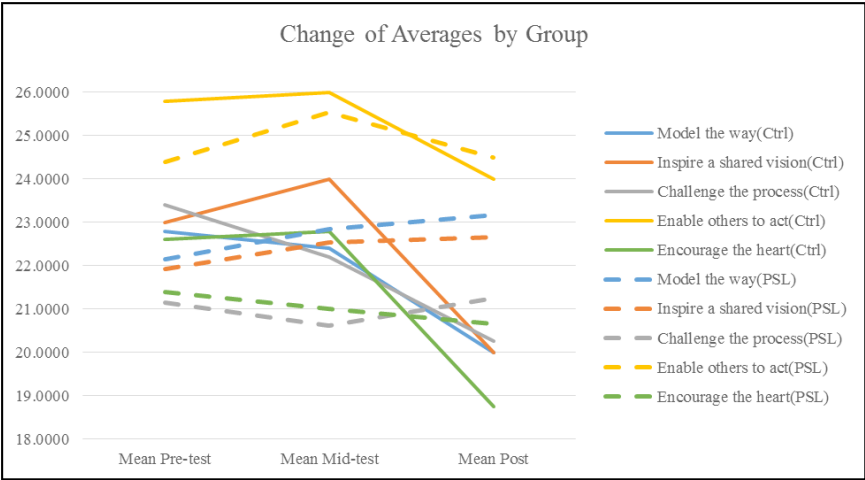


Figure 5. LPI changes of averages by group

Appendix B: Tables

Table 1
Timeline of Activities for PSL Program Administration

Month	Activity
June – August	Accept applications and invite participants; New Peer Leader Trainings (pre-semester assessment time included)
September	Co-enrollment in Pedagogy course (pre-semester assessment time included)
October – December	Observations; training and professional development workshops; invited seminar speaker
December – January	Post-fall semester assessments
January	New Peer Leader Trainings (pre-semester assessment time included); Co-enrollment in pedagogy course
February – April	Observations; training and professional development workshops; invited seminar speaker
April – May	Post-spring semester assessments

Table 2
Assessment Instruments

Area	Purpose	Assessment Tools	Administration
Pedagogy	Evaluate ideas about teaching and learning	Teaching Philosophy	App, Dec., May
		Teaching Concept Map	InTr, Dec., May
All Content Area Disciplines	Evaluate complexity and extent of disciplinary content knowledge	Discipline Concept Map	InTr, Dec., May
Leadership Practices	Identify types of leadership practice and behaviors	LPI	Sept., Dec., May

Table 2 Continued

Area	Purpose	Assessment Tools	Administration
Communication Skills	Evaluate communication skills	COMSA-R2	Sept., Dec., May
Instructional Techniques & Group Management	Evaluate teaching practice and application of training topics	Observation	Wk5-15
Physics and astronomy	Evaluate accuracy of disciplinary content knowledge	Astronomy Pre/ Post-test Questions (Zelik et al., 2010)	InTr, Dec., May
		Force and Motion Conceptual Evaluation (Thornton & Sokoloff, 1998)	InTr, Dec., May
		Brief Electricity and Magnetism Assessment (Ding, 2006)	InTr, Dec., May
Mathematics	Evaluate accuracy of mathematics content knowledge	Lawson Test of Formal Reasoning (Lawson, 2006)	InTr, Dec., May
Chemistry & Biochemistry	Evaluate accuracy of disciplinary content knowledge	Chemical Concept Inventory (Mulford & Robinson, 2002)	InTr, Dec., May
		Concept Inventory on Acid Strength (McClary & Bretz, 2012)	InTr, Dec., May
Biological & Life Sciences	Evaluate accuracy of disciplinary content knowledge	Biological Concepts Instrument (Klymkowsky et al., 2010)	InTr, Dec., May
		Concept Inventory of Natural Selection (Anderson et al., 2002)	InTr, Dec., May

Table 2 Continued			
Area	Purpose	Assessment Tools	Administration
Biological & Life Sciences	Evaluate accuracy of disciplinary content knowledge	Genetics Concept Assessment (Smith et al., 2008)	InTr, Dec., May
		Introductory Molecular and Cell Biology Assessment (Shi et al., 2010)	InTr, Dec., May
Engineering & Computer Science	Evaluate accuracy of disciplinary content knowledge	Chemical Engineering Fundamentals Concept Inventory (Ngothai & Davis, 2012)	InTr, Dec., May
		Secondary assessment of Computer Science 1 knowledge (SCS1; Parker et al., 2016)	InTr, Dec., May
Attitudes & Beliefs	Evaluate attitudes related to learning in computer science	Computing Attitudes Survey (Dorn & Tew, 2015)	InTr, Dec., May
	Evaluate epistemological beliefs about physical sciences	Epistemological Beliefs about Physical Science Survey (Elby, 2012; Otero & Gray, 2008)	InTr, Dec., May

Note. App = submitted upon application to program; InTr = completed during initial training; Wk5-15 = observed during the 5th – 15th week of the semester

Table 3
Demographic Data for PSL Participants in Cohorts 1 & 2

	PSL Participants (N=34)	Rutgers University SAS, SEBS, SOE (N=16,068)
Sex		
Male	14	49%
Female	19	51%
Unknown or prefer not to answer	1	NA
Race and Ethnicity		
African American	1	9.1%
American Indian		0%
Asian	14	24.7%
Native Hawaiian ^a or Pacific Islander		0.2%
Latino		14.1%
White	9	39.2%
Two or more	3	3.7%
Black, Non-Hispanic		NA
Hispanic, or Hispanic Non-Puerto Rican	5	NA
Foreign		7.4%
Puerto Rican		NA
Unknown or prefer not to answer	2	1.6%
Class Year		
Second year	10	NA
Third year	14	NA
Fourth year	10	NA

Notes. SAS = School of Arts and Sciences; SEBS = School of Environmental and Biological Sciences; SOE = School of Engineering

^a This is not the official label from the DOE, but is the label used within our university's student data system, which is the source of the data gathered here.

Table 4
Result of Repeated Measures for LPI

Source	Model the way	Inspire a shared vision	Challenge the process	Enable others to act	Encourage the heart
Within Subject					
Wave	0.14	0.3	11.46***	1.61	1.75
Wave x Gender	2.16	0.6	1.48	1.41	1.9
Wave x Group	1.4	0.81	7.09**	0.63	1.73
Between Subject					
Gender	4.18*	2.25	0.72	0.14	0.01
Group	0	0.09	0.64	0.14	0.93

Note. * $p < .10$. ** $p < .05$. *** $p < .01$

Table 5
Number of Instances for Each Topic in Teaching Philosophy Thesis Statements (Fall 2015)

Category	Pre–Fall	Post–Fall
Learning/Classroom Environment	6	22
Collaborative/ Cooperative Learning	5	16
Learning Types/Styles	3	2
Meaningful Learning	3	12
Motivation	3	4
Discourse	2	11
Cognition/Metacognition	2	1
Active Learning	2	0
Constructivism	1	0
Group (work, environment)	1	5

Table 5 Continued

Category	Pre–Fall	Post–Fall
Independent Learning	1	5
Investigative Science Learning Environment (ISLE)	1	1
Mental Models	1	1
Multiple Intelligences	1	7
Problem-Solving	1	2
Reflection	1	3
Dialogic Discourse		8
Higher orders/levels of learning and thinking		5
Teacher-Student Relationships		3
Bloom’s Taxonomy		2
Content Literacy		2
Critical Thinking		2
Univocal Discourse		2
Assessment		1
Communication		1
Gesturing		1
Group Processing		1
Memory		1
Questioning		1
Sensory Registering		1

Table 6

Instances of Descriptor use in Teaching Philosophy Thesis Statements

Descriptor of Classroom Environment	Pre Fall (N=6)	Post Fall (N=22)
“Effective”, “Optimal”, “Best”, “Ideal”	4	4
“Positive”	2	3
“Cooperative” or “Collaborative”	1	3
“Diversity”	1	1
“Challenging”	0	1
“Safe” or “Comfortable”	0	6
“Student-centered”	0	4

Respectful Alignment of Programs as a Possible Factor in Remedial Writers' Pass Rates

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Abstract

For over four years, students enrolled in remedial writing classes who attended eight writing center tutorials directly linked to their assignments had an average pass rate of 95.6 percent, whereas students who did not attend any writing center tutorials had an average pass rate of 39.4 percent. These correlations are just that—correlations that cannot speak to causation—but they can encourage writing center directors to analyze trends. Examining the alignment among various programs inside the First-Year Experience Program at a large, urban Midwestern university, this project proposes that tacit collaboration might be a factor in yielding high pass rates.

Keywords: correlation, writing centers, tutorials, collaboration, course-based tutoring

Respectful Alignment of Programs as a Factor in Remedial Writers' Pass Rates

Measuring the value of writing tutorials reminds me of the mythical figure Atalanta who would not marry anyone who could not beat her at a race. She ran so swiftly that no one could catch her, and in the tale, the goddess Aphrodite advised Melanion to drop three golden apples to slow her down. As researchers, I believe we are all seeing glimmers of what to drop in order to estimate the value of writing center tutorials. Boquet (1999), Driscoll and Perdue (2012), Lerner (2001), and Macauley and Schendel (2012) all advocate replicable, aggregable, data-supported (RAD) research. A large, randomized empirical study would be a golden apple: scholars with a grant and great cooperation could randomly assign students

to various composition classes, give pre-tests to level students, and then evaluate tutorials via writing quality measures and surveys of all involved—something perhaps only possible with a large grant at a large institution. However, in this article, I want to propose another glimmer to consider, the product of a correlation, which, as readers know, does not yield causation or generalization, and that glimmer refers to something Harris (2000) and Eodice (2003) have advised for over a decade—collaboration. Even in a large school, collaborative alignment can begin. Alignment gives hope that tacit collaboration and working together quietly can yield great results, even though these results may remain only a distraction for Atalanta.

Programs can be aligned with few meetings between directors and the multitude of employees involved; this article discusses the alignment of several programs at a large Midwestern urban university over a four-year period. Eight Writing Center tutorials are directly linked with four first-year writing assignments (one tutorial for two drafts of four papers) for remedial writers within a First-Year Experience Program that includes strong advising and the student tracking software program, Starfish. Correlations are shown to be very high in that, consistently, for over four years, 95.6 percent of students who came to the eight required tutorials in the Writing Center passed remedial writing, whereas students who did not attend passed at a rate of 39.4 percent (Appendix A). The patterns in these figures intrigued me. To obtain the glimmers, like Melanion in the tale, I needed advice, and my colleagues at the Northeast Ohio Writing Centers Association, the Eastern Central Writing Centers Association, and *Writing Center Journal* virtual retreat were all very generous, cautioning that correlational studies do not yield results that point to causation. While waiting for the large-grant golden apple studies, we can look backwards and cautiously analyze what is working.

Data Collection

Data were collected over a four-year period using the tracking software called Starfish (2016) that was available to the Writing Center beginning in the fall 2013 semester. In the fall 2010 semester, remedial writing shifted from a two-course, non-credit-bearing

program (English 085 on paragraphs and English 090 on essays) to a stretch model (Glau, 1996, 2007) where students obtained credit for graduation from one course, English 100, while spending more time in the classroom (one credit hour more) and going to the Writing Center. The number of students that took remedial writing over the four-year period averaged 455 in the fall and 204 in the spring. That initial fall 2010 semester, students attended workshops on writing because the Writing Center was insufficiently staffed to give individual tutorials. The next academic year of 2011-2012, however, after the addition of a small fee of \$50 that paid for more tutors, remedial writers were required to attend eight individual tutorials, and attendance grew by 200 appointments. In the fall 2013 semester, the Writing Center obtained the software tracking service, Starfish (2016), that enabled the monitoring of the number of Writing Center tutorials and the pass rates for English 100 presented in Table 1 (Appendix A).

Literature Review

Historically, researchers investigating the factors associated with the effectiveness of writing tutorials for improving pass rates have cautioned the need for a variety of methods of investigation—ones beyond surveys that most directors usually collect (Lamb, 1981; Neulieb, 1980; Bell, 2000). In their book *Building Writing Assessments that Matter*, Macauley and Schendel (2012) advocated a rich blend of assessments. In one chapter, Schendel refers to the way the Cleveland Orchestra gained funding through telling readers about its success in a wide variety of ways: invitations to prestigious festivals, awards, ticket sales in New York, and imitation by other orchestras (pp. 145-146). Such qualitative triangulation presents various kinds of evidence of success that administrators often trust in order to secure funding. However, with the spotlight on retention and graduation rates, writing center professionals often need to offer more.

Qualitative studies do not lend themselves to replication or generalization, hence the need for RAD research. The studies conducted empirically on the effectiveness of writing tutorials to improve pass rates reveal the confusion brought on by various quantitative measures. Lerner (2007) especially has cautioned that we

must consult Macauley and Mauriello (2007) for ways to assess and be on our guard against some easy measures: SAT scores are not a way to level students; grades vary by instructor; and grades do not indicate writing quality. Being inherently unstable, these measures present problems. Researchers cannot see the quality of the writing if grades are used as a measure.

That said, some empirical studies show students do make improvements when they attend writing tutorials. In a descriptive study comparing students who attended tutorials with those who did not, Sadlon (1980) found 65 percent of students given tutorials improved in a post-test essay compared to the control group. Advocating small scale evaluation for writing centers, Bell (2000) compared students' judgement of the value of their tutorials over time in several increments (immediately after a tutorial, two weeks after, and two months after); all students found tutorials valuable, indicating that the value of writing center tutorials did not fade. Additionally, students found the advice helpful for future writing needs. Using pre- and post-test writing samples, Niiler (2003, 2005) found writing center participants improved on global issues such as the focus and development of the writer's work. Williams et al. (2006) found the same results over a four-year period for students in first-year and advanced composition courses: more writing center attendance meant higher grades. Pairing one student with one tutor promoted better pass rates in first-year composition courses in a study by Diederich and Schroeder (2008). In a controlled, randomized study of students in English Composition, Henson (2009) found that the students who visited the writing center voluntarily demonstrated a statistically significant better "clarity of purpose" in the introductions of their essays. Students with low self-efficacy but high writing center visitations had higher composition grades than those with high self-efficacy but low visits. This finding held for both native and non-native speakers, but especially so for non-native speakers (Williams & Takaku, 2011).

Basic writers who were frequent writing center participants persisted and graduated at higher rates than did their non-participant peers (Bell & Frost, 2012). The researchers advocated using such institutional data to formulate comparisons to illustrate the

engagement that writing center tutorials provide for students. As they noted, “regular and ongoing involvement of students over time proves to be an important factor in student persistence” and especially so for minority students (p. 24).

What if, however, pass rates are not, generally speaking, the concern of writing center professionals? In her important book *Retention and Resistance*, Powell (2014) warned the academic community that a focus on pass rates and retention efforts misses our duty to educate students for language skills they need today—ones that will last into their future instead of preparing them for solely academic ventures. Our focus in tutorials remains (at the advice of North [1984] and so many after him), to help the writer develop the skills needed to improve written communication, not to focus on a specific programmatic goal.

Assignment-Linked Tutorials

One afternoon right after midterm, a student sneered the words many readers have heard, and they had a great impact: “My teacher says I need to come here, but I don’t have anything to work on.” She was right. Everyone from advisors to instructors to tutors knew remedial writers needed tutorials—everyone except them. We had to tell students why they needed to come—exactly why. At that point, we began a different approach, and the form used was key.

Writing center forms, as Beech (2007) cautioned, reveal so much about writing centers’ policies and attitudes. In fall 2012, after two years of figuring out how to shift from the workshops to individual tutorials, the Writing Center began using a chart to help remedial students know why they needed to attend (Appendix B). Our chart contains two individual tutorials: one before and one after each of the students’ four assignments. The decision to make eight tutorials came from a \$50 student fee initiated by the Vice Provost for Undergraduate Studies and the Vice Provost for Academic Affairs, who realized we needed more tutors. If we pay tutors \$13 an hour, then the fee yields eight tutorials, which then fit perfectly with the pedagogical goal of helping students before and after their drafts for the four papers.

The chart provides a visual cue to students; students and teachers alike use it to check off tutorials, even though they are recorded electronically in Starfish as well. The visual impact of the chart is important. Our chart says the FYWP and the Writing Center are aligned. We choose to be ancillary to their program; we want to help students before they submit a draft and then after they receive instructor feedback. The chart also allows everyone to be manually involved in checking off the required tutorials. Students handle it carefully when asking us to check off appointments, and instructors have created their own versions of this chart. It is a visual cue of progress.

Initial Habituating Workshops

At the beginning of each semester, the Writing Center staff offers short workshops for remedial writers on the Myers Briggs Temperament Inventory, reading skills, and grammar. These workshops help to habituate students to our services. Students attend either in person or online, and they must turn in homework in person. This means they learn where we are located on campus, fill out our student information form, and begin to make appointments.

Tutors and Tutor Training

Tutors are largely but not exclusively graduate students in literature or creative writing placed in the Writing Center by the English Department with a tuition waiver and small stipend. Our undergraduate tutors sport a wide variety of majors such as business, chemistry, and music. They are hired from the Honors Program when possible, and when not, from general applicants.

Tutor training occurs both at the beginning of the academic year (with a full day orienting tutors to our policies) and then each week throughout the semester during one-hour staff meetings. We review the assignments in the FYWP along with various techniques for working with remedial writers. Hospitality is our top value in this urban, largely commuter-student environment. The Counseling Center Director comes in one time during the year to discuss working with remedial and difficult students. The Director then also shares advice from previous years.

When tutors work with remedial writers, the Director advocates the following strategies: knowing their assignments and

readings well; working with a cognitive approach that Shaughnessy (1979) described in *Errors and Expectations*; reframing an assignment referring to students' experiences in high school; and using the Cycle of Change Model ("Transtheoretical Model," 2017), particularly the pre-contemplative stage, to highlight awareness of poor behavior patterns.

In addition to the top value on hospitality, tutors who know well both assignments and readings communicate to remedial writers that they do know how to help them with their writing. When examining writing, tutors use Shaughnessy's cognitive approach to deduce why a student would write a sentence the way he or she did, and then use the student's intention and language to teach them a better way that respects the student's language and intent. In other words, a prescriptive approach with a weak writer would be harmful. Another technique for welcoming a remedial writer is to communicate that the college task is just that—not a high school task. Once students realize they need to learn a new skill, they pull away from blaming themselves to focus on what is new. Finally, remedial writers often pose great challenges to tutors. For instance, after several tutorials, a student did not print out the right version. In another instance, a student did not take any of the suggested revisions. The Stages of Change Model allows a tutor to shine a light on poor behavior patterns without judgment. Tutors are instructed to say, "Something must have happened that you didn't print out the right version." Such a strategy does not fix the problem: it does create awareness and dialogue. That dialogue allows both tutor and student to discuss poor strategies.

Quiet Collaboration

Writing centers can often exist separately from other types of academic support, as Griswold (2003) noted. At our university, academic supports like the Writing Center, the Tutoring and Academic Success Center, and Advising are housed under the Provost's Office in the Office of Undergraduate Studies, while the FYWP functions out of the English Department. To address the needs of our large Midwestern urban university's many non-traditional, minority, and first generation students, Academic

Advising and the office that concerns Upward Bound, Talent Search, and Student Support Service (called TRIO) offer advising and success coaching. These groups work with other programs such as library instruction and an Introduction to University Life class. There never has been a single meeting where all of us (advisors, Starfish wizards, directors, and other staff members) are in the same room. We just quietly work together with student success as our goal. Instead, the Vice Provost for Undergraduate Studies will often suggest collaborations, and the Director of the FYWP corresponds with all groups. Each group seeks to add to the success of first-year students especially in its own way.

Tutors' Perspective on the Shift from Workshops to Assignment-Linked Tutorials

Tutors who responded to an anonymous, voluntary survey from SurveyMonkey regarding the shift from large workshops to eight assignment-linked tutorials reported that the tutorials improved the attitudes and the writing itself. They also noted that a supportive instructor mattered in regard to student attendance at tutorials. Of the 17 tutors, seven responded, which is a 41 percent response rate.

Questions were open-ended and as follows: describe your experience with the transition from workshops to eight individual tutorials; relate whether, in your experience, these tutorials were helpful to remedial writers; and advise what could be done to help remedial writers improve their skills. Most valuable about the tutors' responses was their perspective as they moved into teaching in the semesters that followed: they saw the results that the tutorials made that were directly related to assignments.

From one tutor who now teaches first-year writing:

As a former tutor and current writing instructor, I have witnessed improvement in student writing due to the 8 tutorials. Additional one-on-one feedback is critical to student success, especially for students who are otherwise unwilling to seek help outside of class from their instructors. As an instructor, I have noticed that students who do not complete the 8 tutorials produce less successful papers than those that meet the Writing Center requirement.

From three different tutors:

I felt like it helped to have the tutorials directly related to their assignments. Without a specific task, students were more likely to arrive unprepared or unsure of exactly what was required. The attitude before was “I’m required to be here” versus coming in with an understanding that the WC supplemented their coursework and arriving with appropriate questions and more direction in their assignments.

Having a specific topic to speak to students about helped structure the appointments and made the students more prepared - they generally knew what they needed to bring and were more on-task in my experience than when they did not have direction initially.

The assignment-based tutorials do indeed seem to help remedial writers, especially because they are encouraged to work with a tutor at least twice for each assignment. With this process in place, writers are able to receive feedback during both the drafting and revision stages of the writing process.

One tutor cautioned the proper use of tutorials, however:

The 8 tutorials are very helpful, but only when students use them properly. End of the semester tutorials have little benefit, unless students are making up/redo-ing assignments. It would be great if we could set a cut off deadline before finals week.

The Stability of the First-Year Writing Program

A set curriculum of four assignments makes the FYWP quite stable, in that Writing Center tutors expect that same assignment from many students. In his book describing course-based tutoring (CBT), *Beyond Dichotomy: Synergizing Writing Center and Classroom Pedagogies* (2015), Steven J. Corbett noted that:

the task of assignment translation can take a different turn when tutors have insider knowledge of teacher expectations. The affective or motivational dimension, often so important in tutoring or in the classroom

(especially nonmainstream settings), can either be strengthened or diminished in CBT. And the question of tutor authority, whether more “tutorly” or “teacherly” approaches make for better one-on-one or small-group interactions, begins to branch into ever-winding streams of qualification. (p. 15)

In our urban setting, insider knowledge of assignments and instructors is crucial for establishing a good relationship with students and efficiency in tutorials.

Students who test into remedial writing (English 100) have the exact same syllabus as students in non-remedial, first-year writing courses (English 101). Currently, the texts for this course include *Readings from Writings* by Stephen Wilhoit (2011) and the reader created by the FYWP Director and a committee of faculty members from the program. The reader offers many short essays on multiple topics (e.g., gentrification, sports, education, gender). The four assignments include a summary, a critique, a rhetorical analysis, and an argumentative paper that includes a counterargument.

Starfish and Academic Advising

The academic student tracking software package, Starfish (2016), has been a key tool in helping academic support professionals and instructors track student appointments in order to target students having difficulties and encourage those doing well: students receive a red flag in the first case and a green kudos check in the second. Undergraduate students schedule appointments online using Starfish. Advisors and instructors see the record of student attendance at meetings with advisors or with tutors in the Tutoring and Academic Success Center and the Writing Center. Academic Advising has instituted success coaching as well, a special program that offers students having difficulties a specific coach to map out strategies designed for their needs. When an instructor places a flag of concern on a student’s record, the advisor is alerted, and a meeting is called to resolve the issue. Instructors are sent a note when the issue is resolved (e.g., poor attendance). This careful monitoring of student behavior has yielded much success; our university won the 2015 Excellence and Innovation Award for Student Success and College

Completion from the American Association of State Colleges and Universities. Retention rates improved by 17 percent since 2002, and graduation rates by 49 percent (AASCU, 2015). When so many units of support work together for student success, they contribute to these rates.

Conclusion

This study used Starfish data from fall 2013 through spring 2016 to examine the pass rates of remedial writers as they related to the number of Writing Center tutorials they attended. We cannot draw any conclusions or causations from these correlations, yet the consistent pattern points to an analysis that includes the linking of assignments and the quiet collaboration among the many groups at this university that work toward student success.

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Appendices

Appendix A

Table 1

Pass Rates for English 100 Students without Withdrawals or Never Attended

PASS RATES	8+ tutorials	7-1 tutorials	0 tutorials	N=students
Spr 2013	100%	78%	34%	205
Fall 2013	95%	76%	47%	480
Spr 2014	90%	60%	32%	207
Fall 2014	100%	83%	57%	441
Spr 2015	95%	73.9%	34.1%	196
Fall 2015	95.5%	84.4%	42.9%	452
Spr 2016	94%	67%	29%	209
Fall 2016	100%	87%	62%	448

Appendix B

English 100 Assignment-Linked Tutorials and Workshops

Workshop Number	Date	Topic	Comments	Tutor Initials
1		MBTI		
2		Reading		
3		Grammar Highlights		

Tutorial Number	Date	Topic (Ideal— planning welcome too)	Comments	Tutor Initials
1		1 st version Summary		
2		2 nd version Summary		

3		1 st version Critique		
4		2 nd version Critique		
5		1 st version Rhetorical Analysis		
6		2 nd version Rhetorical Analysis		
7		1 st version Argument		
8		2 nd version Argument		

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The title page must include the title of the manuscript (not to exceed 12 words), and the name(s) and institutional affiliation(s) of all authors. The lead author should provide work and home addresses, telephone numbers, fax, and e-mail information where applicable.

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- abstract of the manuscript, maximum 100 words
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Contact the Membership Secretary to request an invoice if needed.

OR

Complete the information on the next page 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.

Make check payable to NCLCA.

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

Dana Jablonski
Director, Office of Academic Support
0176F RBD Library
Auburn University, Auburn AL 36849
334.844.5972
dmj0021@auburn.edu

NCLCA Membership Application

Please check one: ☐ New member ☐ Membership renewal

Name _____

Title _____

Institution _____

Address _____

City _____

State/Province _____

Zip/Postal code _____

Phone number _____

Fax number _____

E-mail address _____



Michael Frizell
TLAR Journal Editor

Bear Claw Center for Learning and Writing

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