What's a Learning Center?

by

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Abstract

The purpose of this narrative is to describe and explain the function of learning centers in American colleges and universities. Since the early 1960's nearly every four-year institution has created or increased support for some kind of learning center with the ostensible aim of improving the academic performance of its enrolled students. In spite of the increased visibility of learning centers in higher education, however, accounts of them in the educational literature have been written in excessively abstract language, rendering them conceptually vague and fragmented. This narrative will present a view of learning centers that identifies, describes and elaborates their functions in clear concrete terms, to wit, it will: 1) identify characteristics that distinguish LCs from current and historically competing student academic support services; 2) specify several properties that link today's learning centers conceptually; 3) describe the work in done in LCs, i.e. what are its goals and the acceptable means of achieving them; and 4) recommend current learning practices that need improving. It will, in short, address the question what is a learning center?

What's a Learning Center?

Introduction

The seeds of today's Learning Center (LC) were planted in the 1930's when Harvard University, New York University, and the University of Minnesota began offering reading courses for the growing number of students having difficulty comprehending texts and passing examinations (Maxwell, 1979; Arendale, 2010). This perceived problem intensified when after 1945 when President Roosevelt signed the GI Bill of Rights into law prompting thousands of World War II veterans to enroll in the nation's universities; and since many of these ex-GI's were not prepared to handle the rigors of university studying, reading instructors expanded their courses to include instruction in how to study. Reading program staff soon coined the term "study skills" as a broad reference to tools and techniques students could use to make learning more efficient, organized, and successful. Reading programs were aided in this goal by the introduction of "SQ3R," a method of reading that capitalized on the predictable format of most content area textbook (Robinson, 1946), and the Cornell System of note-taking, a systematic format of condensing and organizing lectures introduced in the 1950's. In order to help students with less that stellar high school preparation, these Reading and Study Skill Labs recommended these other methods of organizing study time, assimilating information, and preparing for tests as the "best methods" of academic studying. By the early 1960's, today's LC emerged as the signature means of providing

academic help in reading, writing, studying, and content area tutoring to students at universities[1] of all sizes, missions, and levels of selectivity.

In 1973, this author was recruited to his first job working in the Learning Centers. He accepted the job even though he knew very little about university level reading. Prior to this, the trajectory of his career had been towards teaching secondary Social Studies; he knew how to read, write and study well enough to graduate from the university with a Master's degree, but until then he hadn't considered how to go about explaining the skills he had acquired in practice to other university students; he had never heard of "learning assistance" nor "Learning Centers."

But like many other LC practitioners, the author learned from his co-workers, attended LC conferences, talked to colleagues at other universities, and over time, he grew more and more skilled at helping students as did his confidence in the recommendations he made to students. He learned about SQ3R, the Cornell method of note-taking, the five paragraph essay, and all of the other standard fare of university LCs of that time. But several events over the next couple of decades changed his perception of learning assistance the function of LCs.

The first event occurred in the early eighties when LC practitioners began a campaign to change the remedial image of LCs among students and campus faculty. They felt students hesitated to seek help because they were afraid of being labeled incompetent (Nelson-LeGall, 1986) and that faculty and other campus stakeholders felt students with academic deficiencies should not have been admitted in the first place. In order to change this image, practitioners began using "developmental" and "developmental education" as

[1] The term university as used here refers to four year colleges and universities, whether there predominant mission is teaching liberal arts or exploring the frontiers of new knowledge.

more palatable and attractive terms for LCs. Rather than being perceived as correcting deficiencies of unprepared and "special admitted" students, the term developmental suggested a more mainstream purpose of supporting the academic and personal growth and development of all enrolled students, even those not considered by traditional standards to be "at risk."

Unfortunately, the term "remedial" didn't accurately describe the work of LCs nor did the term "developmental" appear to embody the principles of student development as exemplified in the theories of Piaget, Erickson, Heath, Perry and others (Brown, 1981). This realization left the author in a quandary: if LCs are neither remedial nor developmental, then what are they? What concepts in the mainstream educational and psychological literature can be drawn on to explain the operation of LCs?

A second issues was raised when the author became the director of a university LC. The LC at this university was organized into a two-tier staffing pattern very similar to LCs at other universities. In one tier, LC "professionals" or "Learning Specialists" were hired as salaried, university employees to help students "learning how to learn," i.e. develop more general, content independent skills of learning that could be applied across different subject matter domains. The second tier included graduate and undergraduate students who were paid hourly and specialized in helping students overcome difficulties in specific content areas such as Mathematics, Chemistry, Accounting, and so forth; individuals in tier two were called "tutors," "paraprofessionals," "Graduate Assistants" or some similar name. One of his first tasks as the LC manager was to narrow the gap between the functions of the two tiers by training tutors to concentrate more on the "processes of learning" in their tutoring rather than simply helping students finish their

homework. This kind of transformation had been the focus of tutor training programs in LCs for some time, but the transformation was best exemplified in Supplemental Instruction in which tutors (referred to as student peers) worked collaboratively with a group of students in a specific course to discuss course readings, compare lecture notes, and work together in predicting potential items on course exams. While the principles of Supplemental Instruction marked a significant move forward in tutoring behavior, it raised the question what ought to be the distinction between "learning specialist" and "tutors? If the function of tier one and tier two staff members is the same, why was two tiers needed? To wit, what knowledge and skills distinguishes tier one from tier two positions and should be considered prerequisites for tier one staff level positions?

The final event occurred in the mid 1980's when the graduate office denied the author's request to advance to candidacy because he had not satisfied the psychological foundations requirement of the doctoral program in the Division of Higher Education. As a result, he enrolled in the graduate level course on "Children's Memory" along with advanced doctoral candidates in Educational Psychology. After a dismal grade on the mid-term, he met with the instructor and explained why he had enrolled in the course and talked about his research interest in LCs. But the most significant moment of the conversation came when the instructor disclosed that he had been reviewing the literature for a psychological foundation of academic studying, and in the process, had compiled an extensive bibliography of research and other articles on college level studying, reading, note-taking, memory, underlining and a number of related issues.

The material in the bibliography offered several important insights regarding academic studying that related to LCs. First, while researchers had examined the effects

of various study techniques on student learning, there was little evidence of an attempt to pull these disparate studies together into a coherent theoretical framework of the studying the process. Second, while a great many students are able to achieve superior grades in high school through diligence and hard work, they tend to learn their study habits by trial and error at the university, suggesting that "how to study" was not a prominent feature of the public school curriculum. And finally, the techniques LCs had been recommending to students for reading, note-taking, remembering, etc. were in fact a collection of mini mental processes that are applied sequentially and often simultaneously in order to achieve a broader learning purpose (Rohwer, 1984). For example, during a lecture, a note-taker has to…

1 Identify information they need to understand the content and simultaneously figure out what to write down in order to prepare for course exams;
2 Attend to the lecture while adjusting for peculiarities of speaking rate, speech pattern, word choice, etc. of the lecturer;
3 Parse the lecture into smaller, manageable units as determined by her background knowledge of the subject or her ability to detect the various signals given by the lecturer;
4 adjust cognitive effort to match the demands of the task;
5 select and hold parsed elements of the lecture in working memory long enough a) to write it down verbatim or b) to format and reproduce "in their own words;"
6 write down the selected parts of the lecture while simultaneously refocusing attention on the lecture for new information;

7 monitor attention, working memory, verbal ability, cognitive effort and perseverance within the constraints of limited time restrictions;

8 maintain executive control that enables the note-taker to orchestrate and deploy these processes as needed to meet the demands of the task.

Therefore, after nearly two decades working in learning assistance, fourteen as a LC director, and serving as President of a national LC association, the author was forced to admit that he didn't understand the foundation of his chosen field, which begged him to begin pondering the question, "What is a Learning Center? In reality, there appears to be as many different kinds of LCs as there are universities supporting them; they have different names, different staffing patterns, and operate under different policies and procedures. Some are part of Student Affairs while others are housed in Academic Affairs; some are supported by state and campus funds while others rely almost entirely on federal grants for survival; some are staffed by fulltime "professionals" while others depend largely on student tutors for the delivery of its services. What properties do LCs have in common? What concepts are necessary to describe these properties and distinguish LCs from current and historically competing student academic support services? What are LC goals and the acceptable means of achieving them, i.e. why are certain methods used as opposed to others? What are the characteristics that shape the way work is done in LCs and how can these characteristics be explained in clear, concrete language? In short, what is a learning center?

The following narrative will explore some of these issues by proposing a broad statement that identifies the basic operation of LCs, and from that, create clear

representation of LCs by describing, explaining, and elaborating on the relevant concepts included in this statement (i.e. the underlined words in the statement).

Broad statement of basic LC service

When a ***student*** has an ***academic problem*** he can't resolve on his own, he ***voluntarily*** ***seeks help*** from the LC, where a staff member who is ***knowledgeable about resolving similar problems*** initiates a ***series of acts*** that are intended to help the learner overcome the problem, enabling him to continue making progress in his chosen academic program.

When a ***student…***

One of the basic principles of LCs is that they are open to all enrolled students, from first time freshmen admitted through "special admission" to graduate students writing dissertations or preparing for orals. And while the number and variety of students seeking LC help may vary across institutions, departments, majors and courses (Arendale, 2010), the number of students who actually seek its help remain a relatively small percentage of total university enrollments. Therefore, one way to identify students who seek LC help is to examine how the vast majority of students manage to cope with challenging and potentially overwhelming academic demands without seeking help from LCs., i.e. students who do not seek LC help? There are at least four potential explanations.

One reason a student may not seek is that they don't recognize when they have a problem. Seiber (1968) coined the term "secondary ignorance" for students who "don't know what they don't know but should know." She argues that some students are so confident in their knowledge and skills that they fail to consider alternative

interpretations of events, and consequently, maintain a firm belief in the correctness of their own ideas or approach to academic work.

In the book "The Invisible Gorilla," Chabris and Simon (2010) discuss six common illusions that influence the lives of people, where they define illusion as a "distorted belief" that is not just wrong, but wrong in potentially dangerous ways. One of the illusions they describe is the "illusion of knowledge" which refers to individuals who overestimate or are over-confident in the level of their own knowledge. They describe a series of studies by Leon Rosenblit in which subjects were asked about their knowledge of certain common phenomena. Subjects were asked, for example, do you know "why the sky is blue" or "how a cylinder lock works." Those answering "yes" were continuously asked the follow-up question, "why is that" until the subject could no longer answer or became annoyed and gave up responding. According to Chabris and Simon, most "people gave up really quickly—they answered no more than one or two 'why' questions before they reached a gap in their understanding. The more interesting and striking outcome of these studies, they added, was the reaction of the subjects who discovered they really had little or no understanding. "It was counterintuitive to them. People were surprised and chagrined and a little embarrassed. After all, they had just claimed to know the answer."

Chabris and Simon also presented a real world example of the illusion of knowledge they experienced personally from students in their university in courses:

> "We sometimes encounter students who come to our offices and ask how they could have worked so hard but still failed our tests. They usually tell us that they read and re-read the textbook and their class notes, and that they thought they understood everything well by the time of the exam. And they probably did internalized some bits and pieces of the material, but the illusion of knowledge led them to confuse the familiarity they had gained from repeated exposure to the concepts in the course with an actual understanding of them. As a rule, reading text over and over again yields

diminishing returns in actual knowledge, but it increases familiarity and fosters a false sense of understanding. " (Chabris and Simon, p. 122, (2010).

These and many other students genuinely spend time studying the material and truly feel they understand it well enough to meet whatever performance criterion is required of them. The data on the number of university students experiencing this state of not knowing are not readily available, but examples of individuals who have social, political, or religious views that are so deeply entrenched that that they fail to acknowledge information that doesn't support their view (Hayakawa, 1941; Hayakawa, 1963; Kahneman, 2010; Chabris and Simon, 2010). When individuals are strongly confident in their knowledge they clearly have little reason to seek help from the LC or anywhere else.

A second group of students who don't seek LC help are those who admit to having a problem but either choose to guess at a potential resolution or to ignore the difficulty and continue on their current path. For many of these students, a problem is viewed as a minor inconvenience within the broader realities of an academic term, and seeking help from the LC "right now" takes away valuable time that could be better spent studying or working on assignments in more important courses. Snyder (1962) referred to this inclination as "selective negligence," a strategy students adopt in order to cope with multiple and often conflicting demands of university instruction. Snyder argues that newly enrolled students soon discover that the amount work assigned in their courses exceeds the amount of time they have available or that they are willing to spend on them. In order to cope with this perceived unequal time distribution, students rank order tasks according to their own attributions of importance and adopt strategies and methods of

studying in which they neglect school work where risks are minimal or where the cost of ignoring them are acceptable, i.e. non required courses, assignments in elective courses, courses taken pass not pass, etc. (Snyder, 1962; Thomas & Rohwer, 1984; Rohwer, 1986).

Another class of students may avoid seeking help from LCs because they fear being classified as incompetent, ignorant, or with some other negative stereotype (Nelson-LeGall, 1986; Collins & Sims, 1988). They resist asking for help, even when the stakes are relatively low, because they feel doing so may draw attention to personal weaknesses they wish to remain hidden. Admitting the need for help forces an individual to accept personal shortcomings, but actively seeking help places these inadequacies on display for the world to see.

In contrast to these more negative courses of action to academic problems, many students don't seek help from LCs because they don't interpret their difficulties as overwhelming or debilitating obstacles. They recognize that learning something is not necessarily a straight-line process, but rather is one that is often beset by confusion, misdirection, and dead-ends. For them, barriers to learning are not seen as insurmountable, but rather as challenges that are an ordinary part of learning; rather than getting frustrated and quitting or seeking help, they focus on the content and try to employ coping strategies that allow them to deal more effectively with the problem on their own (Diener & Dweck, 1978; Dweck & Leggett, 1988). These students who prefer to work through problems on their own may be demonstrating, or at least on the way to acquiring, the quality of "autonomous learning" (Brown, Bransford, Ferrera, & Campione, 1983); they are curious, motivated, possess a journeyman level work ethic,

and are adept at exploiting available resources in order to achieve their academic learning goals independently (Resnick & Glaser, 1976).

Finally, many students do actively seek help but not from LCs. The term LC refers to a place; a designated room, building or other physical structure on campus set aside for the purpose of helping students. Learning assistance, the business of the LC, means *helping or assisting with learning*, which can take place from various individuals inside and outside the university. There are at least four sources of learning assistance available for students other than LCs.

Alternative sources of learning assistance

One source of learning assistance outside of the LC is available from course instructors during scheduled office hours.[2] Instructors regularly post days and times they are available to consult with students. While these consultations serve a number of purposes, at least one is to provide a forum for students to discuss any difficulties they may have learning the subject. Instructors are content area experts who understand not only the way basic concepts and principles of the discipline are organized but also the methods for distinguishing truth from falsehood and validity from invalidity (Shulman, 1986). They may also have alternative ways of representing the subject in order to make it comprehensible to others: what makes learning specific topics easy or difficult and what strategies are most likely to be helpful in eliminating misconceptions of the subject (Strike & Posner, 1985); and given their experience teaching the subject to many students, they may be able to recognize the conceptions and preconceptions students of

[2] Instructor office hours are one of the most valuable learning tools available to students. These are times set up ahead of time for instructors and/or, in larger courses, teaching assistants to answer specific questions about the content, unclear or ambiguous texts, assignments or other course requirement s.

different ages and backgrounds bring with them that might interfere with learning the subject (Shulman, 1986). Indeed, office hours may be the last vestige of the Colonial College ideal of "Mark Hopkins at one end of the log a student at the other" (Rudolph, 1990) by providing times set aside for busy students to have access to busy instructors.

Another source of learning assistance can be found in the university library. The rise of the American university and its underlying principles of lernfreiheit and lehrfreiheit[3] stimulated the need for an expanded library where institutions could collect and maintain the wealth of information needed to accommodate the research needs of faculty and students. But in addition to supporting research, the library collection also includes learning assistance resource materials that can help students overcome problems on their own. A library collection may include a number of "how to" text on reading, writing, studying, and remembering; it may also include texts that cover the same subject written by a different author presented from a different perspective; and many libraries also maintain files of instructor's past examinations that can offer insights to help students study and prepare for examinations. The university library can offer a driven, independent minded student with the resources necessary to resolve an academic problem without the need for additional, outside help from anyone.

In addition to these institutionally provided sources of learning assistance, many students seek help in the student-to-student network. Students routinely seek guidance and support from friends and schoolmates for personal and academic problems (Boud,

[3] Lernfreiheit gave students the "freedom to learn." In the era of the classic college curriculum, each class took the same classes and progress through the four years in lockstep manner. Lernfreiheit removed the administrative coercion and restrictions characteristic of the English and American collegiate systems and gave students the freedom move from college to college to study what they wanted. Lehrfreiheit gave professors the freedom to study, inquiry, and to report the results his findings in an atmosphere of consent (Rudolph, 1990).

1998). These peer relations afford opportunities for students to share knowledge and perspectives with individuals who have more or less the same experiences.

Triesman (1992) documented the value of student-to-student peer interactions in out-of-class learning when he observed the study habits of 20 African-American and 20 Chinese students enrolled in beginning calculus. He found that these student-generated learning sessions contributed significantly to the success of the Chinese students in completing homework assignments. While they put in 8 to 10 hours working on their own, they also got together in the evenings for group study sessions.

> …they might make a meal together and then sit and eat and go over the homework assignment. They would check each other's answers and each other's English. If one student got an answer of 'pi' and all the others got an answer of '82,' the first student knew that he or she was probably wrong but could pick it up quickly from the others. If there was wide variation among the answers, or no one could do the problem, they knew it was one of the instructor's 'killers' (Triessman, 1992).

Treisman and his associates were able to see from these observations that …

> "…the Chinese students learned from each other. They would edit one another's solutions. A cousin or an older brother would come in and test them. They would regularly work problems from old exams, which are kept in a public file in the library. They would ask each other questions like 'How many hours did you stay up last night?" They knew exactly where they stood in the class. They had constructed something like a truly academic fraternity, not the more typical fraternity: Sigma Phi Nothing (Triessman, 1992)

Boud (1998) suggests that peer interactions have the potential of producing at least five positive learning outcomes. First, students develop 1) skill in working with others as part of a learning community; 2) skills of critical inquiry and reflection when challenges to their existing ways of thinking arise in interchanges with other students; 3) skills of self-management by taking control of their own learning without being continually prompted by outside authority; 4) skill of refining their points of view by

testing ideas on others and rehearsing positions that enable them to express their understanding of concepts and ideas; 5) and finally, they develop strategies for assessing their own knowledge by putting themselves in " test-like situations" with their classmates.

A final source of learning assistance can be obtained from various commercial enterprises, where the term "commercial" refers to sources of help that are secured off campus, typically supplied by non-university personnel such as parents, co-workers, former teachers, and other non-campus associations (Kuh, 1995). While help from family and friends are typically given free of charge, help from other commercial enterprises are available at a cost.

The first documented source of paid commercial learning assistance began in 1886 when William Whiting "Widow" Nolan opened Manter Hall, a commercial tutoring school that catered to Harvard University students. Until his death in 1923, Widow Nolan, a summa cum laude graduate of Harvard, and his partner Hollis Webster, ran "a quiet, unobjectionable tutoring business" that offered "four and eight hour sessions before every major midterm and final exam." According to a 1902 Manter Hall brochure, the school "taught those in difficulties how to solve their problems, helping students through Harvard, saving them time and the discomfiture of failure" (De Los Reyes, 1993).

But by 1933, Manter Hall and its five major competitors had become a highly questionable industry (Kriss, 1952) that reportedly grossed nearly a quarter of a million dollars in revenue annually (Burton, 1940). Commercial tutoring had transformed Nolan's legacy of "legitimate aid" into "a method of passing courses without working, without thinking, without learning" (Harvard Crimson, 1939). The half dozen schools

situated along Massachusetts Avenue were accused of "ghost-writing papers, spotting or stealing exam questions, recommending 'gut' courses, bribing monitors or class lists, high-jacking lecture notes, summarizing texts," selling these services to nearly three quarters of the Harvard student body (Kriss, 1952; Burton, 1940).

In 1933, however, MacMillan, Houghton Mifflin, Harper Brothers, and Ginn and Company sued the College Tutoring Bureau for abridging, printing, and selling copyrighted textbook material (Kriss, 1952) effectively closing the schools forever[4]. However, Abraham Segel, a partner in College Tutoring Bureau moved from Cambridge to Boston where he established "Student Outline series---Hy-Marx" where he continued to produce his "capsules of knowledge" for student's consumption (Kriss, 1952).

The Student Outline Series was a forerunner of similar commercial enterprises that have provided learning assistance since the tutoring schools closed. FybateNotes sold lecture notes to students at the University of California, Berkeley in the 1960's and the 1970's. CliffsNotes still produces study guides for hundreds of texts that are sold nationwide. Evelyn Woods Reading Dynamics courses have also attracted a great many university students since the skill of "speed reading" was given credence by President John F. Kennedy and other famous figures as a means of increasing reading speed and the ability to remember large amounts of information (Carver, 1971). The pervasiveness of the internet has also spawned a multitude of online sources of learning assistance such as Varsitynotes, Student notes, Mynoteit, and a great many others (Arendale, 2010).

[4] By 1939, the Harvard Crimson had also waged war on the tutoring schools with a front page editorial in which the schools were characterized as "intellectual brothels" and by refusing to advertise their business. In that same year, Harvard opened the Bureau of Supervisors (later renamed the Bureau of Study Counsel) to offer an antidote to the commercial schools and "to help students get along under their own power and not provide the academic crutch that had characterized the tutoring establishments" (Weiss, 1947).

All of this suggests that students seeking help from LCs share at least three characteristics: 1) they 've experienced some kind of academic problem they are not able or willing to resolve on their own, 2) they've decided the benefits of seeking help outweigh any potential costs of not seeking help, and 3) they've surveyed the sources of help available to them and selected the LC as the most appropriate for their immediate needs and purposes.

…has an academic problem she can't resolve on her own….

The primary mission of LCs is learning assistance, which at its barest essence means assisting student learning. In more concrete terms, LCs help learners come *to know or do something* they are not able *to know or do on their own* by overcoming obstacles that prevents them from achieving one or more of their academic goals. Resnick & Glaser (1976) maintain that psychologists' refer of these academic obstacles as "problems" which they conceived as…

> "…a situation in which an individual is called on to perform a task not previously encountered and for which externally provided instructions do not specify completely the mode of solution. The particular task, in other words, is new for the individual, although processes or knowledge already available can be called on for solution…Even where deliberate instruction is provided, it is rarely 'complete' in terms of assuring that the learner experiences or attends to every aspect of what is to be learned, or that he or she is systematically taught every skill in exactly the form used by experts (Resnick & Glaser, 1976).

According to this conception, problem detection begins when a learner sets a goal she wants to achieve. The goal may be as broad as passing a test, writing a composition, and graduating with honors or as narrow as spelling a word or adding a column of numbers correctly. Once the goal is set, she searches memory for a goal satisfying routine; if an applicable routine is found, there is no problem, since the necessary routine was present and retrievable from memory. A learner is said to have a problem when an applicable

routine is not forthcoming from memory and her progress towards the goal is blocked (Resnick & Glaser, 1976).

The psychological definition of problem suggests that the term "underprepared" may refer to some but not all students seeking LC help. The definition maintains that a learner may have the processes and knowledge necessary to perform an assigned task but may be unable to spontaneously recall and apply it situations calling for it (Brown, Bransford, Ferrera & Campione 1983; Kahneman, 2011). And memory researchers have found that time and new knowledge have the potential of eroding or distorting memory traces of knowledge or skills that were previously learned (Sternberg, 2003). Similarly, problems may arise in situations where a student is asked to perform a task she has not previously encountered. A student, for example, may have a problem with just one course of several they are enrolled in, one of many assignments in a course, reading one text of several that are assigned in a course, or a problem comprehending one concept presented in one chapter of an assigned text. In this sense, problems are context dependent and heavily influenced by the specific task and context in which the task is embedded (Rohwer, 1984; Thomas & Rohwer, 1986; Irving, 1985).

Finally, it is often the case that tasks are assigned in which the mode of solution is not specifically or completely disclosed, suggesting that problems may crop up for students at any stage of their academic program. As examples, consider pre-med students with high gpa's in required mathematics and science courses but falter when they enroll in required general education courses outside of their major field of interest; similarly, it is not uncommon for graduate students with an exemplary track record in coursework to

experience problems coping with the unknown terrain of preparing for orals or writing and defending a thesis after

Academic problems are a common though often understated part of learning in the university. In high school, concepts tend to be presented step-by-step in progressive stages of difficulty where learners are given guided and supervised practice before they are asked to apply or use those concepts independently. If the learner fails to achieve mastery during practice, the instructor is able to re-teach the concept or task until mastery is achieved[5]. But the transition from high school to university introduces students to a system of classroom instruction based predominantly on the lecture that calls on them to negotiate learning from lectures delivered in class and from assigned work to be completed outside of class on their own (Axelrod, 1976; Rohwer, 1984; Thomas & Rohwer, 1986).

Given the heavy reliance on independent learning in the university, the chance that any given learner will experience a problem is relatively high, regardless of her past academic successes in high school or undergraduate courses. When a problem is detected, a learner's comment might begin with the words such as "I can't," "I don't know how to," or "I don't understand." At this point, some students seek help, very often from a LC.

…he <u>voluntarily</u> seeks help from the LC…

The degree system--where courses are offered and taught, out-of-class work assigned and graded, and academic credit and degrees awarded--is the heart of the

[5] This step-by-step model of instruction presents a scenario of teaching that may or may not play out this way in all instructional settings in public schools; nonetheless, achieving student mastery through step by step practice has become the expected model in K12 teaching that diverges greatly from instruction at the university.

university (Axelrod, 1976). Individuals enrolling in the degree system implicitly agree to the terms and conditions of enrollment set forth by the university. They are expected to fulfill academic requirements and follow university rules and regulations or face penalties that can range from receiving disciplinary actions to being expelled from the university. Some of these requirements include…

a) maintaining status as a student by enrolling in a minimum number of credit hours each term;
b) making satisfactory progress in an academic program as demonstrated by maintaining a minimum grade point average;
c) Selecting an area of specialization by a designated date;

d) Acquiring a breadth of knowledge beyond the area of specialization by accruing a specified number of credit hours in general education courses;

e) Fulfilling assigned out-of-class academic obligations, e.g. assigned reading, labs, essay writing, etc.

The degree system is the primary function of the university and the entity that every other system in the university either directly or indirectly supports (Axelrod, 1976). The recruiting and admissions systems, for example, carry out the procedures and operations for soliciting potential students, screening applicants, and selecting students for admission. The advising system includes the processes by which students seeking degrees get information about various degree programs, the way each program works, and the requirements for beginning the program and earning a degree. The counseling and health systems are concerned with medical and psychological well being of students. The library and information technology systems maintain the print and digital sources of knowledge necessary to support student and faculty research. And the LC is part of the student support system that helps students overcome obstacles blocking their progress in a chosen academic program.

Like other support units, LCs operate outside of the degree system; they do not assign mandatory coursework, assign grades, award academic credit or confer degrees. Seeking help from the LC is an intentional but voluntary act; students, of their own volition, *choose* to get help from the LC or they *choose* to stay away. Similarly, after volunteering, they may also *choose* to discontinue its help without penalty or fear of jeopardizing their enrollment status in the degree system. In short, students are free to begin, continue, or terminate participation in the LC at will.

… a staff member who is knowledgeable and experienced at resolving similar problems

Like other educational enterprises, LCs have the responsibility of hiring practitioners[6] who have the requisite knowledge and skill to resolve the problems students are likely to bring to the LC. Elementary and secondary teachers, for example, are required to have a Bachelor's degree in the subject they are assigned to teach, and in some school districts, a license or certificate affirming they have acquired the knowledge of the appropriate methods of teaching it. Colleges and universities assign teaching duties to individuals who 1) have earned a certificate or degree signifying satisfactory completion of a prescribed course of study in an academic discipline (typically an earned Masters or Doctorate degree), 2) who possess a professional license or certificate awarded by a recognized state board or other regulatory agency (e.g. CPA, ABA, etc.) or 3) who have a documented "track record" of professional work (as in art, music, writing,

[6] I use the general term "practitioner" since there is little agreement within higher education for classifying LAC personnel. Some universities have created job classifications such as learning skills specialists and accompanying descriptions specifically tailored for the unique tasks performed by LAC personnel; other universities place their personnel in existing classifications such as counselors, lecturers, Student Affairs Specialists, to name a few. The term practitioner suggests a person who is a "doer," or "performer" of LC activities.

sports, etc.) demonstrating their knowledge and understanding of the underlying principles in the field of study they are assigned to teach.

Unfortunately, the academic requirements for LC practitioners are less rigorous. There is currently no prescribed, comprehensive course of study where practitioners can learn the knowledge necessary for LC work. While a Bachelor's degree is typically the "minimum educational requirement" and a graduate degree is often "highly preferred," the specific knowledge expected is either unspecified or only "recommended" to be in either education or psychology.[7] It is probably for this reason that LCs initially focused on teaching "content free" learning skills such as how to comprehend texts, how to study, how to take tests, how to manage time, and so forth; the Cornell method was taught as the recommended approach to taking notes and SQ3R became the "Australian Crawl" of college reading.

But the gradual shift in Psychological thinking from behaviorism to more cognitive views of human functioning led researchers to seek more cognitive based explanations of learning, studying and remembering. According to these newer conceptions, learning is a deeply personal activity in which the learner is considered the central figure in the search for meaning and understanding. Mature learners are viewed as active strategists who interact with their environment in an effort to intentionally modify or verify their existing perception of that environment (Neisser, 1976); they develop a plan (Miller, Galanter & Pribrum, 1960), initiate accessible strategies (Danserau, 1985; Nambiar, 2009), monitor their progress (Paris & Meyers, 1981), and modify their plan or strategy if either fails to achieve the desired goal (Neisser, 1976). These newer

[7] The legacy of Reading and Study Skills Labs has been a great many practitioners who earned advanced degrees in Reading.

conceptions of the cognitive dimensions of learning raise several questions regarding the knowledge necessary for LC work: What content knowledge and at what level of proficiency distinguishes the qualified from the unqualified? How should this knowledge be classified? What do practitioners need to know about the "non-traditional" students seeking help from the LC, e.g. students with physical and learning disabilities, non-native English speakers, and students from ethnic and socio-cultural background different from their own, and so forth.

Shulman (1986) suggested seven categories of teacher knowledge that may be adapted for use in certifying competency of LC practitioners. The first four categories address general dimensions of teacher knowledge, including…

1. General pedagogical knowledge that identifies broad principles and strategies of student management and organization.
2. Knowledge of learners and their individual characteristics;
3. Knowledge of educational contexts, ranging from workings of the group or classroom, the governance and financing of (LCs), to the character of (the university and its mission);
4. Knowledge of educational ends, purposes, and values, and their philosophical and historical grounds;

The remaining three define content-specific dimensions, such as…

1. Content knowledge
2. Curriculum knowledge, with particular grasp of the materials and programs that serve as "tools of the trade" for teachers;
3. Pedagogical content knowledge, that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding (Shulman, 1986)

These seven categories provide a set of abstract categories, a template if you will, that can serve as a guide for LCs to identify concrete and specific dimensions of academic knowledge required for LC practitioners.

…initiates a *series of acts* that are intended to help the learner resolve his problem

The vitality LCs stems from its ability to help learners come to know and do what they were not able to know or do on their own; and whether this activity is called helping, tutoring, facilitating, coaching, advising, assisting, or guiding, they are all considered part of the abstract category of instruction.

The word "act" as used here refers to a deed or operation intended to elicit a response from learners that moves them closer to resolving their academic problem. Practitioners string together a series of acts into a chain of events where each act in the chain is a consequence of the preceding student response; this learner response in turn stimulates the practitioner to initiate another act generating another response from the learner. And while each practitioner act may have no objectively greater value that any other, the quality and timing of these acts are expected to be more dynamic and have consequences that are more far reaching for resolving student problems (Flanders, 1970; Brown, 1987).

Some instructional acts that have been identified in the mainstream educational and psychological literature include but are certainly not limited to:

Lecturing: an oral presentation of information: giving information, examples or analogies; telling stories or anecdotes; citing authority or expressing personal opinion or idea.

Asking questions: a verbal statement to elicit information about the state of a learner's knowledge or to guide a learner along a particular avenue of thought (e.g. increased hierarchical thinking or reasoning), and so forth (e.g. "What's the definition of …..?" or "What is the next step?

Giving praise: making a subjective acknowledgement of a learners accomplishments or efforts in order to increase her confidence or self-esteem (e.g. "Well done." or "Now you're getting the hang of it."

Directing: giving a command or authoritatively directing a learners' behavior, actions or attention (e.g. "Read the example in the first paragraph," "Do the next one on your own.")

Demonstrating: showing or representing concepts pictorially or graphically in order to enhance a learner's understanding; demonstrations are often accompanied by explanations (e.g. "Let me show you how the formula works in this situation.")

LC instructional acts have both short and long term objectives. Clearly the most immediate and highest priority, at least from the student's point of view, is resolving the problem that led them to initially seek help. But in addition to this more immediate goal, practitioners also give advice to guide students in making better decisions in future learning situations. The social science literature refers to advice as a recommendation one gives to guide an individual's future action when making a decision between two or more alternatives; that is, when a student is faced with courses of action A and B, a practitioner might suggest he choose option A, or, by contrast, suggest that he not choose option B. Bonacio & Dalal (2010) provide a taxonomy that includes four types of advice that may be applied to LC instructional outcomes:

1) Recommending a particular course of action (***It's a good idea to review your lecture notes as soon as possible after class while the information is still fresh in mind***).
2) Recommending against a particular course of action (***It's not a good idea to put off studying until the night before a test; cramming can lead to disaster***).
3) Providing additional information about a particular course of action without explicitly prescribing or proscribing that course of action (***Let's brainstorm some questions you can ask your instructor during office hours***).

4) Recommending how to go about making a decision without explicitly prescribing or proscribing that course of action (***That sounds like a great essay topic, but it seems a little broad for a two page paper).***

Summary

Since Francis Wayland at Brown University complained to the Trustees in 1841 about the poor ability of entering freshman (Rudolph, 1977), improving the academic performance of university students has been a continuing and perplexing problem in higher education. In the more than 170 years since Wayland, universities have responded to this problem by supporting a variety of services for students experiencing academic difficulty: Preparatory Programs, Tutoring programs, Compensatory Education programs, Developmental Departments, Reading courses, Reading and Study Skills Labs and Writing Centers (Enright, G., 1975; Arendale, D.R. , 2010; Lissner, L.S., 1990; Maxwell, 1979). The learning center is the latest in this long history of academic support where a *student* with an *academic problem* can *voluntarily seek help* from a person who is *knowledgeable about resolving similar problems* and capable of initiating a *series of acts* intended to help the learner overcome their problem.

But the variation that exists across universities begs the question, "what is a learning center?" What concrete object do the words "learning center" stand for? What properties do LCs have in common and how do LCs differ from historically similar enterprises? To make the point, consider the word automobile, which is derived from the Greek prefix "auto" that means self and the Latin word "mobilus" that means moving. Hence, the word automobile stands for certain objects with the capacity for self motion.

But conventional wisdom suggests that the word automobile does not include

motorcycles, trains, buses, ships, aircrafts and many other objects with the capacity of self-movement. The word automobile similarly refers to objects in the past with open carriages, that were powdered by steam, coal/oil and hydrogen/oxygen mixtures, and that were navigated by a human operator or driver; it also includes objects of today that are powered by internal combustion engines, fueled by hydrocarbons, manufactured in styles ranging from convertible to sedans, hatchbacks, station wagons, vans and mini vans. And through modern technology, newer automobiles are being produced that are fueled by ethanol, plug-in electricity, and natural gas and that are equipped with devises that navigate through traffic with little input from a human operator. All of these objects are included in the class automobile because they share certain characteristics of "automobile-ness," while ignoring their various differences. So when we talk about an automobile we mean "something" that has certain characteristics in common with the object in the neighbor's driveway, the object parked at the curb, as well as the object Steve McQueen drove wildly through the streets of San Francisco in the movie "Bullit," but is not of them. In the same way, the LC is an abstraction, or a complex association of objects with similar characteristics, ignoring, leaving ambiguous or undefined their differences; it is this set of unique characteristics that potentially unites the Student Learning Center at UC, Berkeley, the Learning Assistance Center at San Francisco State University, the Skills Development Center at the College of Southern Idaho, the Weingarten Learning Resource Center at University of Pennsylvania and the Bureau of Study Counsel at Harvard University, while ignoring various unique individual differences. This article presents five properties LCs share that distinguish LCs from similar enterprises:

1. LCs are open to all registered students regardless of their current academic standing or past academic achievements.

2. LCs help students resolve academic problems that prevent them from making satisfactory progress in their chosen academic program.

3. LCs operate outside of the degree system; students voluntarily seek its help without being subject to the grades, academic credit, requirements and restrictions of the degree system.

4. LC work requires proficiency in a body of specialized knowledge that transcends the boundaries of traditional academic disciplines.

5. Instruction is the principle means by which LCs resolve student problems.

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