

Learning Center Pedagogy and UDL: An Environment of Change

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*In the United States, tutoring in higher education can trace its roots back as far as 1636 when Harvard, America's first college, initially began educating the nation's wealthy and elite students (Maxwell, 1997; Sheets 2011). These early forms of tutorials were based in remedial education; the goal was to bridge the gap between the level of education students brought to the institution and the level of education expected by that institution. Arendale (2010) provides a comprehensive review of the history of learning assistance in *Access at the Crossroads: Learning Assistance in Higher Education*. He provides a thorough and valuable six phase historical timeline, starting in the 1600's through current forms of learning assistance programming (24). Early methods of learning assistance were created to enhance individual student performances in particular courses with which students struggled to succeed. This tutoring model persisted over time, becoming the archetypal form of learning assistance to improve student learning. However, Arendale's research clearly shows that learning assistance has progressed by developing, expanding and increasing in both scope and complexity based on solid theory, research, and best practices.*

Since the mid-90's, as institutions have invested in student retention, learning centers have become ubiquitous within the landscape of higher education. Rooted in the practice of tutoring, learning centers have morphed into multifunctional hubs that cater to a wide range of students. This paradigm shift can be dated to the 1960's (but became most prevalent during the 1980's) as teachers and administrators searched for ways to enhance student learning. As such, programs shifted from individual support, often executed by professional and paraprofessional educators, to a flexible system based on theories of learning, cognition, and motivation (Casanza and Silverman 1996), which has created a discipline unto itself. The danger, however, is for administrators to use learning assistance as a panacea that they believe increases retention numbers by promoting a rise in student grades and pass rates, especially in those courses with high failure and withdraw rates. Instead, effective learning assistance programs utilize current and relevant theory that encourages critical thinking over rote memorization. In other words, ideally the effort and attention that informs learning center pedagogy does not focus on and emphasize grades; instead successful programs highlight authentic learning. That distinction is the nexus point for Universal Design for Learning (UDL), which respects and affords access and genuine learning opportunities for all individuals.

In addition to the professionalization of learning centers as they become shaped by theoretical underpinnings and embedded in informed practice, opportunities and varieties of learning assistance have expanded to better meet the needs of students. For example, online learning assistance, embedded tutoring, supplemental education, academic coaching, and peer-to-peer tutoring—just to name a few—create and foster occasions for students to improve and excel academically while drastically enhancing their academic acumen. Learner (2014) explains that the pedagogy of these flexible centers addresses “individualized learning, the need for practice and the role of the teacher as a guide rather than a sage” (303) and offers “a powerful alternative” (303) to pedagogical methods such as lecture and recitation that were previously prominent in higher education. As a result, learning centers, as well as writing centers, are not monolithic. Though based often on similar theory and analogous practice, effective centers work within the context of the institution in order to meet the needs of the faculty and students within that particular milieu.

Research over time (Coagie 2001; Daiker 1989; Fitzgerald 1994; Gillam 1994; Gillespie and Learner 2004; Kuh et.al 2005) demonstrates that these centers have shifted pedagogy from habitually catering to at-risk students to the act of engaging students with a range of abilities and aptitudes. UDL creates an especially effective platform through which learning centers can offer flexible learning strategies for a myriad of learners in a variety of different classes, levels, and learning experiences. As a result, UDL (CAST 2011) provides the ideal theoretical basis for learning centers, no matter their structure. Three major categories of UDL include providing students with 1) Multiple means of representation, 2) Multiple means of action and experience, and 3) Multiple means of engagement. Flexibility is the fundamental axis, so learning center administrators need to attend to the physical facility as well as the pedagogical foundation in order to facilitate optimal learning while concurrently incorporating theories and methods of learning that provide for flexible pedagogy and employee training. Learning centers, with their multitude of support programs, foster an optimal platform through which to engage with UDL.

Provide Multiple Means of Representation

Effective, current, and well-functioning learning centers provide students with multiple opportunities to access, interpret, and express what they learn. Often students visit learning centers because the way teachers present information in the classroom or lab does not comport with their ways of internalizing content material. As a result, it is incumbent upon learning center practitioners to be trained and proficient in multiple access points for learning comprehension and expression.

These multiple access points go well beyond the much-maligned “learning style” theories advocated by various researchers (Barb, Swassing, Malone 1979; Felder and Spurlin 2005; Kolb 1983; Litzinger et.al 2007). Perhaps the most well known is learning style theory that emphasizes visual, auditory, kinesthetic learning (Barb, Swassing, Malone 1979) Another popular learning style theory is Howard Garner’s (2008; 2011) concept of multiple intelligences. As an alternative, Universal Design for Learning and the concept of multiple access points espouses a range of actions—activities that may include visual, auditory and kinesthetic—but which embraces knowledge perception, expression, comprehension, interpretation, transformation, and expression. Students must be able to access information and concepts; interpret that information; manipulate the knowledge in various ways; connect that conceptual knowledge within, between, and against understanding; and ultimately express that knowledge in some way that is valued in the academic setting. However, it remains important to understand that this process is not a linear one in which students follow a step-by-step process, nor is it a universal process followed by all students in the same way at the same pace and within the same timeframe. Instead UDL recognizes and celebrates the differences within and among learners as they progress through their own unique learning processes and cognitive journeys.

For example, the concept of perception---ensuring that information is accessible to students---allows for integrated comprehension. Effective learning center practitioners understand that students coming to them for supplemental help outside the classroom may require alternate ways of displaying knowledge. Students often find textbook data (ie. text, language, images, graphs, tables) to be imperceptible. In order to assist students as they navigate the terrain of academic language and data points, practitioners will often show a student how to manipulate perception by, for example, isolating manageable data points in order to scrutinize the underlying components of the concept before they work together to grasp how those parts work within the whole. At the same time, another student, rather than having trouble perceiving the individual parts, instead becomes distracted by each discrete point and cannot access the important major concept because of difficulty in recognizing the hierarchy of the information perceived. In this case, the learning center practitioner would work with the student to aid in internalizing that hierarchy. For example, using a white board with colored

markers while collaborating *with* the student in the process of outlining or content clustering the important minor and major concepts encourages visualization of abstract models. Tutors can alternate this visualization with accompanying verbal dialogic as the student further invests in the process. Finally, as the student controls the markers and actively engages in writing on the board during the collaboration, the student begins to take authority over his/her own knowledge. It should be noted that a computer screen or a simple sheet of paper, for example, is just as effective—the physical resources are not important. What *is* significant is the multi-modal process of accessing information that allows for flexible learning opportunities. In this way, the student begins to integrate the knowledge through multiple means of representation. As a final example here, depending on the student's needs, the practitioner and student could collaborate in manipulating the written text into other forms of visual, auditory, or figurative representation—pictures or symbols might better represent the concepts during the outlining or clustering activity. Of course, this example is just one of the ways in which learning centers might utilize a single concept of UDL to work with students, but it represents the importance of variability, malleability, and flexibility of form and process as students learn more effective ways to access, perceive, interpret, transform, and express knowledge.

The learning center environment is ideally suited to encourage practitioners to work *with* students in these transformative ways because tutors often work interactively one-on-one or in small groups, allowing for more intimate knowledge and awareness of each student's needs and processes. However, it remains extremely important for those practitioners to remain open to possible learning opportunities or pitfalls when working with students. Like in the classroom, it can be very easy to make assumptions about students, what they need to know, and how they approach learning. Each teaching and learning moment with each individual learner is an opportunity for the practitioner to learn as well—to modify expectations, to disregard plans that prove ineffective, and to learn more about themselves as facilitators of the process. Learning centers can provide unique opportunities for UDL through collaboration between and among the students and practitioners, who are often students themselves. Thus, the learning center experience can be one that proves advantageous for all of those involved.

Provide Multiple Means of Action and Expression:

Well-functioning learning centers are those that provide optimal environments, both physical and virtual, through which students can easily navigate. Planning ahead and anticipating student requirements remains crucial when designing physical and virtual spaces. Intentionality of design creates both structure and flexibility so that students can work effectively within the learning environment. According to the National Center on Universal Design for Learning (CAST 2011), crucial guidelines that encourage students to engage in multiple means of action and expressions include a) physical action; b) expression and communication; and c) executive function (1).

When using the principles of UDL, the physical space of the learning center should include multiple types of spaces such as:

- Designated spaces clearly marked and defined with clean and unambiguous signage
- Tables of various sizes, shapes, and heights in order to accommodate all students and pedagogy that encourages both individual, one-to-one, and small group interaction
- Individual study carrels in designated quiet spaces
- Computers, large screen monitors, and appropriate academic software
- Ample room to easily ambulate within the space
- Supplies such as white boards, lined, unlined and graphic paper, four dimensional models, and previously printed handouts that help explain frequently requested information or difficult concepts

Obviously not comprehensive, the items listed above demonstrate ways that students can successfully utilize educational spaces that enhance opportunities for learning. Multiple levels of support optimize unique student engagement with the material; these strategies also invigorate physical, strategic, and imaginative learning opportunities that highlight the triangulation of cognitive response, physical action and spatial navigation. A virtual presence provides flexibility and multiple tools for learning. Like physical spaces, operative virtual spaces should be clearly marked and easily navigable. These virtual spaces create opportunities for students to engage in multiple means of learning. Flexible methods of acquiring knowledge encourages and supports adaptable pedagogical resources.

Perhaps the best and most obvious way that learning centers can effectively utilize UDL strategies is through monitoring progress and providing active and immediate feedback as students work through the learning process. Often, the only type of feedback students receive in the classroom is summative assessment, the kind of assessment that occurs at the conclusion of the learning process, usually through tests and quizzes, with the purpose of determining the type and amount of content students have retained over the course of a chapter, section, or duration of the course. Although summative assessment remains important in course design and development, students rarely, if ever, have the opportunity to revisit that information to allow for a continuous learning pattern. Additionally, summative assessment can be stressful for students because of its function as a grade-driven paradigm.

However, UDL underscores the importance of *formative* assessment, which encompasses feedback and valuation that occurs throughout the learning process, when the stakes are not as high. Formative assessment might be thought of more as dialogic, authentic and responsive discourse and verbal interchange that leads students through a cognitive journey toward understanding. Formative assessment has several advantages. First, the feedback is timely, occurring during the learning process rather than at the end. Second, the feedback is specific and contextual. This kind of response can pinpoint particular locations of concern or confusion as students work through their own understandings. Third, formative assessment is individualized--even if the session isn't--which is one of the advantages of learning center pedagogy. Working closely with a practitioner, each student can work within his/her own schema to scaffold information and create a solid and reliable structure for knowledge. This point does not overlook collaborative work, small group tutoring, or supplemental instruction, which includes more than one student. In fact, as we know, while one student works through the difficulties of an assignment or concept, other students realize their own relationship with the knowledge. However, we assert that this kind of learning still allows individuals to refine, identify, and problem-solve their own understandings. Finally, formative assessment reduces student stress---they learn without looming high-stakes performance expectations.

These varieties of adaptable resources and assessments create self-directed instructional teaching and learning tools that inspire the creation of countless scaffolding tools, both within the physical and intellectual spaces. Students who instigate their own educational instruments and responses to formative assessments create the occasion as well as the means for scholarship. Schaughnessy (1979) asserts that “doing things for students that they can do for themselves is not generosity, but impatience,” (113) and UDL optimizes learning by creating, for students, the opportunity for knowledge construction by allowing them to set instructive goals, generate pedagogical plans, invent scholastic strategies, and establish performative assessment.

Provide Multiple Means of Engagement

The past section included a discussion of summative and formative assessment; however, perhaps the most important part of the learning center and UDL experience is an emphasis on fostering self-assessment. Self-assessment includes students' opportunities to “regulate [their] own emotional reactions,” access intrinsic

and extrinsic motivation, modulate emotions, and manage and engage environmental forces (CAST 2011). Most importantly, however, self-assessment fosters students' self-efficacy and engagement, providing the means to develop confidence in their own abilities to assess their knowledge acquisition and learning processes rather than relying on outside forces, such as teachers or tutors, to function in that capacity for them. The action of self-assessment challenges students to take responsibility for their own learning and establishes intellectual and academic authority, which is, perhaps, the key factor in internalizing learning strategies and goals that will be tremendous lifelong skills.

An important part of this emphasis on self-efficacy includes, as we have discussed previously, the paradigm of collaboration. Along with encouraging and teaching self-assessment, effective and strategic learning center practitioners also provide the intellectual space for students to act *with* rather than being acted *upon*. In other words, students have a voice and autonomy in their own learning processes. Rather than practitioners controlling the students' learning center experiences, they instead carefully respond to the students' needs and follow the students' lead, rather than the other way around. Students can determine the pace, the content, the structure, the tools, the activities, the goals, and the level of support. A thoughtful and intuitive learning center practitioner encourages individual choice, perhaps first introducing students to the options available and then listening carefully to the students' ideas and desired outcomes. This alternative and flexible pedagogy allows students to have ownership over their own learning processes, thereby establishing a more meaningful learning center interaction. Certainly, students' academic needs shift and change over time; as they become more comfortable with their environment, both physical and intellectual, their educational choices may also shift and change—something practitioners should keep in mind. In other words, each time students utilize learning center services, they should expect responses that comport with their particular and present context, even if they work with the same practitioner over time.

As students develop that crucial sense of ownership over their own education, several important learning opportunities transpire. First, students begin to make important connections between and among concepts on their own, internalizing the knowledge and gaining the confidence to access that knowledge as needed. Those connections help reveal the relevance of the material so that students find meaningful the knowledge beyond the textbook, the lecture, and even the class. For example, in the following scenario, a peer tutor works with a first-year psychology major in an introductory psychology course who has trouble understanding the complex definition of stimuli and the significance of that concept within the context of the course. If the tutor were working within a pedagogical model that privileges the knowledge of the tutor over the student, he/she might say, "So, what is presented first, a conditioned stimulus or an unconditioned stimulus?" Even though the tutor uses questioning techniques, a positive practice that can effectively challenge the student to access course content, this kind of questioning solidly maintains the tutor as the architect of the environment, the focus, the content, and the direction of the session. Merely making a few discrete yet noteworthy changes to this interaction can significantly impact the dynamic of the session. Simply interacting with the student with parallel authority allows the student to manage and therefore positively influence his/her experience. For example, rather than asking a question that demands the student to produce content and course knowledge to which he/she may not have access, the tutor can minimize the academic risk and create a safe educational space by asking the student the kind of questions that establish collaboration and equality between them. For instance, after talking to the student about what he/she finds difficult with the material, the tutor might say, "How about we start where you said that the information in the book first gets confusing. You seem to have a grasp of a conditional stimulus. Do you think you can say in your own words what that is? Then, we can compare what you know to an unconditional stimulus. Does that plan make sense?"

Although these two sets of questions may look similar, they are considerably different. First, in the second scenario, the tutor acknowledges that he/she notices areas of confusion for the student that begin within the text itself. This shift allows for the interpretation that the pedagogical issue or deficit does not reside within

the student, but recognizes and stresses that the text and concept itself can be confusing. Second, rather than asking the student to attempt to access large portions of content information, like differences between complicated stimuli, the tutor begins dissecting the information into manageable segments. Third, the tutor encourages the student to verbalize his/her understanding of this one concept, which will allow the student and the tutor to determine the direction of the tutoring session. Anything is possible from here. They can talk through the concepts while accessing the information in the textbook and utilizing language, charts, symbols, or other visuals on a whiteboard, computer, tablet, internet source, or sheet of paper. The student can highlight information while writing, taking notes or photos of the work, or generating marginalia. Participation alongside the tutor optimizes the pedagogical options available to enhance the learning process.

Learning centers can potentially create environments ideally suited to practice Universal Design for Learning. First, however, learning centers must reject the notion that students who use their services are academically deficient or that the students with whom they work must be “fixed” in order to be successful college students. Rather, learning centers should not only provide extensive professional and staff development, both for peer and professional employees, but should also emphasize the concepts and principles of UDL, which can improve student learning on their campuses for all students while reducing the stigma often associated with tutoring and academic assistance. Promoting the idea that most students, not just those at-risk, benefit from learning center pedagogy that relies on UDL may create and even enhance opportunities and programs that encourage and support all students, regardless of their level of preparation, grade point average, or success rate.

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