

Disability Policy and Completion and Retention Rates in Higher Education

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Disability Policy and Completion and Retention Rates in Higher Education

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Disability Policy and Completion and Retention Rates in Higher Education

1. INTRODUCTION

According to the National Council on Disability (2015), students with disabilities attend postsecondary education institutions at similar rates to students without disabilities. Among students that received special education services and had been out of high school for up to eight years, 59 percent enrolled in postsecondary education (Hinz, Arbeit, and Bentz 2017). However, their retention and completion rates are much lower. Only 35 percent of students with disabilities earned a four-year degree in eight years while 60 percent of students finished in six years (National Council on Disability 2015). The question this thesis investigates is, what explains why they experience lower retention and completion rates? Conceivably, lack access and accommodation should be a hindrance to completion and retention rates but federal laws guarantee students with disabilities sufficient means of access and accommodation (Hayes 2009; Bowman 2011; Rothstein 2008). Scholars recognize that while laws and policy adequately address reasonable accommodation and access, actions appear to be lacking when it comes to the inclusion of students with disabilities (Stone 2015; Kurth and Mellard 2006; Huger 2009). Studies show that one of the major factors that influence persistence and completion is student involvement in the academic and social life on campus with faculty, staff, and peers (Kurth and Mellard 2006; Mamiseishvili and Koch 2010). Meanwhile state and federal law are often silent on the topic of inclusion because they have to be reconciled with the universities' academic freedom policies. To investigate the influence of inclusion on retention and completion rates, this study first considers federal disability policy in higher education and the laws and policy of three states - Texas, New

York, and California - relating to access, accommodation, and inclusion. Second, it analyzes the applicability of the model of universal design of instruction (UDI) for the field of disability theory. The UDI includes principles of access, accommodation, and inclusion. Third, the study analyzes the disability policy of one university in three states – University of California in Los Angeles (UCLA), University of Buffalo in New York (UBNY), and University of Houston (UH) and compares their policies to the model of universal design. Of the three states studied, only New York and California, have a law explicitly requiring the inclusion of students with disabilities in the university setting. All three states are active in adopting policies that address inclusion of students with disabilities in higher education. UBNY met the most principles in the UDI model by providing faculty, staff, students, and the overall campus community with the most guidelines, mandates, and trainings. Although UCLA and UH met the same amount of principles, UCLA met each principle to higher degree than UH. UCLA provided faculty and staff training on the principles of UDI whereas UH offered none. Overall, both UCLA and UH offered very few policy guidelines and mandates for the model of UDI and emphasized reasonable accommodation over full inclusion. Overall, full inclusion must be emphasized more in order to improve retention and completion rates among students with disabilities in higher education institutions.

2. ACCESS, ACCOMMODATION AND INCLUSION POLICY FOR STUDENTS WITH DISABILITES

Emily Hutcheon (2012) argues university policies represent a primarily medical framework of disability and should shift to a more inclusive and social framework. A more inclusive and social framework would decrease the examination

costs for individuals, make the universities more proactive, and remove students from the “adversarial position” of requesting accommodation. She argues university policy often describes accommodation as a “burden” or “obligation” of the student instead of a support or means of inclusion. Yet the question of whether the burden rests with the university or the student has its origins in the definition of disability.

a. Definitions of Disability

The Americans with Disabilities Act (ADA) 1990 defines disability as “(1) an impairment that substantially limits one or more major life activities; (2) a record of such an impairment, or (3) being regarded as having such an impairment” (“Disability Law”). ADA 2008 retains the original definition of disability and expands upon it through mandating the definition should “be in favor of broad coverage of individuals to the maximum extent permitted by the terms of the ADA and generally shall not require extensive analysis”. However, many of those in disability theory state the political definition is not inclusive enough. Sara Goering asserts the medical definition of disability leaves people with disabilities feeling “excluded, undervalued” and “pressured to fit a questionable norm” (Goering 2015). Therefore, she states disability scholars and activists have developed a social model of disability which emphasizes the distinction between the “impairment and disability” (Goering 2015). Dr. Rhidian Hughes echoes Sara Goering’s analysis of the social definition of disability (Hughes 2010). She argues the social model tries puts people rather than their impairment at the center of the care by emphasizing the barriers people experience in society. While the medical model views the disability first and then

calls for adjustment of the people, instead of looking at the person as a whole. The social model defines “impairment” as a “long-term characteristic of an individual that affects their body, mind or senses” while “disability” is a “result of the exclusion because of the barriers society places in their way”. The social model calls for equity in reasonable accommodation and focuses on solutions to the barriers people with disabilities experience which is determined by federal and state disability law.

b. Federal and State Disability Law

The Fourteenth Amendment provided substantial protections for individuals with disabilities before the Rehabilitation Act of 1973. This amendment requires states to provide equal protection of people within their “respective jurisdictions and to give due process any time state action could adversely affect life, liberty, or property”. Further, federal law 42 U.S.C. Section 1983 allows plaintiffs to have a jury trial and receive damages where state action violated a federal constitutional or statutory right. However, neither of the laws provide people with disabilities with extensive protections. As a result, Congress enacted the Rehabilitation Act of 1973 (Rehabilitation Act) and the Americans with Disabilities Act in 1990 (ADA 1990) to provide specific protection to persons with disabilities in both the public and private sectors. These two antidiscrimination laws are the main laws, in addition to the Americans with Disabilities Act as Amended of 2008 (ADA 2008) and Higher Education Opportunities Act of 2008 (HEA 2008), that govern the access, accommodation, and inclusion of students with disabilities in institutions of higher education (Hayes 2009; Bowman 2011; Rothstein 2008).

Section 504 of the Rehabilitation Act and Title II and III of the ADA each include a fundamental right to access through their mandate that no person with a disability may be excluded from the participation in, or receiving the benefit of public services, including colleges and universities (Dragoo and Hsin 2019; Stone 2015). Section 504 of the Rehabilitation Act provides the foundation for defining a person with disability in a legal setting. The law mandates access through requiring reasonable accommodation in any institution receiving federal funding. Yet, it was limited in focus and students still experienced challenges receiving accommodation. The provisions were expanded in the ADA 1990, and ADA 2008 to protect access and promote inclusion in postsecondary education through mandating reasonable accommodation, usually facilitated by an office of students with disabilities. Because most universities receive federal assistance, coverage under the laws is largely coextensive (Bowman 2011; Hayes 2009). Yet three Supreme Court decisions, *Albertsons, Inc. v. Kirkingburg* (1999), *Murphy v. United Parcel Service* (1999), *Sutton et al. V. United Air Lines* (1999), and *Toyota Motor Manufacturing, Kentucky, Inc. v. Williams* (2002) narrowed the rights of students with disabilities by requiring courts to decide if the plaintiff had a disability ultimately reducing the pool of individuals covered under ADA 1990. ADA 2008 reaffirmed Congress' original intent of protecting people with disabilities through adding "regarded as having such an impairment" to the definition of disability, a list of major life activities, and mandated that courts discuss whether the institution met the responsibility of engaging in the process and provided reasonable accommodation instead of the definition of disability (Bowman 2011; Rothstein 2018). This significantly increased the number of

students eligible to receive reasonable accommodation in higher learning, increasing both access and opportunities for inclusion.

Under the Rehabilitation Act or ADA 2008, students with disabilities must follow the process to receive reasonable accommodation which includes meeting the definition of disability, academic qualifications, and the accommodation is reasonable or will not fundamentally alter the school's program or service (Golden 2008). The accommodations usually provided by university disability student services commonly include extra time on exams and assignments, separate rooms for exams, interpreters, notetakers, and readers as well as other services (Golden 2008).

The HEA 2008 explicitly seeks to improve both accommodation as well as the academic and social inclusion of students with intellectual disabilities (Cortiella 2009). The law created the National Center for Information and Technical Support for Postsecondary Students with Disabilities to provide help and information on the best and promising practices to students with disabilities, families, and entities awarded grants (Cortiella 2009). It expands upon grant programs to innovate and develop effective and efficient teaching methods and strategies consistent with the universal design for learning and to provide postsecondary faculty the ability to meet the needs of students and improve the retention and completion of students (Madaus 2009).

States either adopt the language and intent from these laws in their own civil rights law and education code or simply cite the federal law in their policies. Either way, the goal of adopting these federal laws is to protect individuals with disabilities from discrimination through the provision of access and accommodation. The three states –

California, New York, and Texas – either adopt the language and intent in federal antidiscrimination disability law in their civil rights law and codes or cite the federal law. For example, HEA 2008 develops accessibility guidelines for instructional materials including college textbooks used in postsecondary institutions. All three states follow HEA 2008 by adopting the guidelines in their education code. Section 715 of the New York Education Code requires university publishers to provide institutions and students with accessible versions of classroom materials and Title 3, Chapter 14 of California Code 67302 mandates that publishers of instructional material provide timely, compatible, and accessible instructional materials to universities for students with disabilities. Section 51.970 of Texas Education Code adopts similar but narrowed language requiring college textbook publishers provide students who are blind or have dyslexia with electronic copies.

The states also draw from or directly cite Title II of ADA 1990 to protect individuals with disabilities from discrimination based on disability in public colleges and universities and Title III in private colleges and universities. Both New York and California prohibit discrimination based on disability in their Human Rights Law and Civil Rights Law, respectively, while Texas simply cites the ADA 1990 in mandating the rights of people with disabilities.

The HEA 2008 expands on funding and grant opportunities for research on the best practices for universal design and independent living. However, New York is the only state of the three to create an institution for conducting disability research. New York created the Cody Center for Autism and Developmental Disabilities at Stony Brook

University to research independent living, best practices, and improve the standard of care for individuals with disabilities.

The Rehabilitation Act requires the creation of services for students with disabilities and asserts equal access. Only California adopted state law to implement the Rehabilitation Act's mandate. California explicitly requires the creation of services for students with disabilities at California Community Colleges and California State Universities and mandates equal access to institutions of higher education for the full inclusion of people with disabilities. California also adopted state law to implement ADA 1990 requirements for physical accessibility and reasonable accommodation standards and mandated under the California Education Code free transportation services and parking at metered spaces for students with disabilities. Texas law establishes separate standards for pass rates for students with disabilities in higher education and requires developmental education for students who do not pass. Texas state law also provides tuition exemptions for deaf or blind students and tuition accommodations for the children of firemen, police officers, game wardens, or employees of corrections with disabilities. Texas allows the American Sign Language to satisfy foreign language requirements. Finally, Texas state law prohibits institutions from reassessing students with dyslexia until previous assessments are evaluated.

c. The Relationship of Reasonable Accommodation, Access, and Inclusion

The relationship of reasonable accommodation, access, and inclusion is dynamic and directly linked, especially on college campuses. In a university setting, Kurth and Mellard (2006) argue appropriate accommodations are defined by a student's functional

needs within the learning setting. However, they assert students are responsible for disclosing their status as a student with a disability in order to access reasonable accommodations in a postsecondary setting. Kaplin and Lee (2013) were specific in their definition of accommodation by giving examples including extended exam time and auxiliary aids such as sign language interpreters, notetakers or adaptive equipment which is all mandated by the ADA 2008. Kristen Brown in her article defines reasonable accommodation in the university setting as “changes in the school environment that allows students with disabilities equal educational access or learning opportunities” (Brown). She further elaborates that an accommodation is reasonable if it meets the students’ need without sacrificing the integrity of the program. Although reasonable accommodation such as extended test taking time or notetakers can facilitate academic access, full social and academic inclusion for students with disabilities on college campuses requires access to be always available and natural without modification.

In her book *the Question of Access*, Tanya Titchkosky (2011) defines access as a way to “orient to, or even come wonder about who, what, where, and when we find ourselves to be in a social space” and to be a feeling of “legitimate participation, meaningfulness, and belonging”. She argues access is tied to the social organization of participation or belonging and must be legally and politically secured, physically measured, and understood. Titchkosky applies the question of access to university through stating universities must have accessible buildings, restrooms, classrooms, offices, or reading lists, as well as professors and events as well as access to a sense of the camaraderie, conversation, and connection that accompany academic life. A less theoretical definition of access in an article by Iwarsson and Stahl is “an umbrella term

for all aspects which influence a person's ability to function within an environment” (Iwarsson and Stahl 2003). This definition is echoed by Lazar, Goldstein, and Taylor who in their book *Ensuring Digital Accessibility Through Process and Policy*, define accessible technology as technology that can be utilized effectively by people with disabilities, at the time that they want to utilize the technology without any modification or accommodations (Lazar, Goldstein, and Taylor 2015).

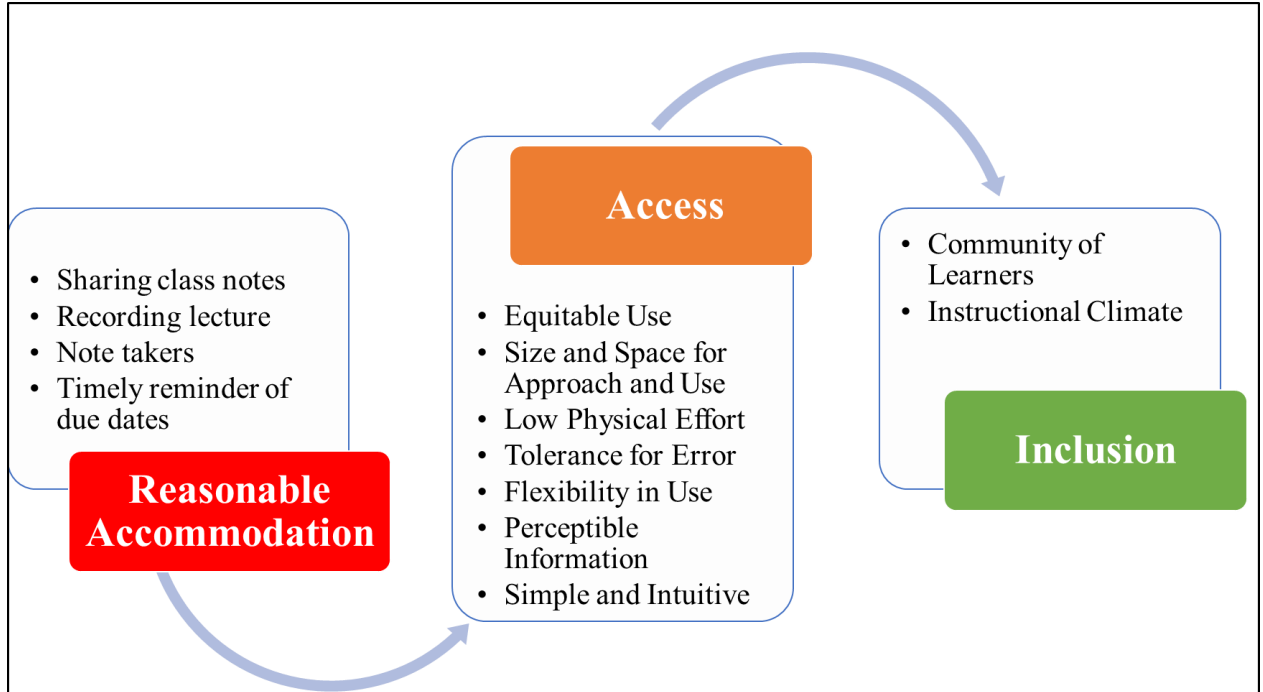
The definition of inclusion varies among disability theorists with an emphasis on natural inclusion. Moore and Schelling define inclusion through natural, structured, and academic opportunities on college campuses (Moore and Schelling 2014). They state natural inclusion is provided through students taking classes, eating meals, and engaging socially in the campus setting while structured integration is facilitated through a web of social relationships with peer mentors. Academic inclusion includes opportunities such as internships, taking nonspecialized classes with students without disabilities, and selecting classes with guidance if necessary.

Similar to Moore and Schelling's natural inclusion definition, Ryndak, Jackson, and Billingsley define inclusion as placement in a natural setting where students are together for instruction and learning, supports and modifications meet appropriate learner outcomes, belongingness, equal membership, acceptance, and being valued, collaborative integrated services (Ryndak, Jackson, and Billingsley 2000). Scheef, Hollingshead, and Voss maintain “genuine inclusion” cannot be forced but rather fostered through relationships and interactions (Scheef, Hollingshead, and Voss 2018).

The Inclusive Schools Network defines an inclusive education as all students being “full and accepted members of their school community, in which their educational setting is the same as their non-disabled peers, when appropriate” (Inclusive Schools Network, 2020). Renzaglia affirms this definition promotes equality and equity for everyone (Renzaglia, Karvonen, Drasgow, and Stoxen 2003). The Rehabilitation Act, ADA 1990, and ADA 2008 promote the inclusion of students on college campuses through requiring the creation of offices and reasonable accommodations. This enables disability services to engage in research, outreach, and education of faculty, professors, and students. It encourages the development of academic and social inclusion by promoting teaching practices such as universal design for instruction and reasonable accommodation in the classroom. Meanwhile, faculty and staff sometimes argue against providing the full extent of reasonable accommodation because it violates academic freedom and reduces “fairness” for students without disabilities. Academic freedom gives faculty and staff the right and responsibility to teach their subject in a professional manner and decide “how to present the material, choosing from methods accepted in the discipline” (Franke). Therefore, while there is nothing in the law that prohibits inclusion, there is a limitation on the directives that can be given to faculty and staff on their instructional practices without violating academic freedom policies.

Figure 1 below shows the relationship of reasonable accommodation, access, and inclusion with the principles of the universal design clearly illustrates this relationship.

Figure 1.



As the arrow indicates, these accommodations often help increase accessibility.

As the literature suggests, reasonable accommodation involves modifications such as allowing students to record lecture or providing extended test taking time. These are the types of modifications or services students must provide documentation for and request at the postsecondary level on a semesterly basis. However, they do not directly promote full inclusion, because they are not naturally incorporated in the classroom environment and students are required to request them every semester. The principles of access in the classroom encourage instructors to make their materials, classroom, and teaching styles more naturally accessible for all types of learners on college campuses. Yet, they fall short of full social and academic inclusion. They fail to completely facilitate the collaboration, interaction, and community building necessary to completely include students with disabilities at the postsecondary level. However, creating a community of

learners and a naturally accommodating environment seeks to promote full social and academic inclusion by creating a naturally accommodating and accessible community of learners and instructors in classrooms and social spaces.

3. THE IMPACT OF INCLUSION ON RETENTION AND COMPLETION RATES

In order to have full social and academic inclusion in the postsecondary setting, the university environment must be naturally accommodating and accessible for all learners. All students should have access to naturally accommodating, accessible, and inclusive instruction and classroom; additional supports or modifications should be appropriate for the learner; and the postsecondary environment should facilitate a strong sense of belongingness, equal value, acceptance, and collaboration academically and socially.

Inclusion is especially important as the number of students with disabilities enrolling in institutions of higher education are increasing due to legal mandates, assistive technology, and improved access to education (Getzel 2008; Huger 2011). However, the National Organization of Disability reported postsecondary education completion for students with disabilities declined (Getzel 2008). The studies on persistence and retention identify the academic and social inclusion of students with disabilities as an important factor in completion. Student engagement through inclusion has a high correlation with student achievement, retention, and persistence.

In a study completed by Noelle Kurth and Daryl Mellard (2006), students with disabilities interviewed identified four recurring issues in postsecondary institutions: a lack of sense of belonging, access to academic information, support for independence,

and self-determination. Students wanted to feel academically and socially included in the university setting. In fact, one student rated accommodation ineffective when it interfered with his sense of inclusion in a class. Kurth and Mellard (2006) argued that accommodation provided equal access under the law but not in the “spirit of the law” when student life was not included in the accommodation process. Belch (2008) identified the main factors in persistence and retention of students with disabilities are a sense of belonging, participation in out of class opportunities, sense of purpose, and self-determination. She argued the concept of universal design, which originated for physical spaces, encompasses both the social and academic inclusion and engagement of students with disabilities in higher learning institutions.

In a study completed by Mamiseishvili and Koch (2010), one of the major factors in persistence and completion is the involvement in the academic and social life on campus with faculty, staff, and peers. They argued that the social integration of students with disabilities had a stronger impact than academic integration. They identified other factors such as living on campus, full-time enrollment, having higher degree expectations, and higher first-year GPA all positively and significantly influenced persistence as well as identified barriers to persistence such as the students’ lack of awareness of accommodations and supports, financial challenges with education and accommodations, inconsistencies in the provision of support, reluctance to disclose, and resistance from faculty and staff members lacking knowledge of students and their rights.

In *Creating the Path to Success in the Classroom*, Kathleen Gabriel (2018) asserted the campus community, especially educators, need to recognize their role in contributing to student success and the campus climate. She defines success in college as

“academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills, and competencies, persistence, and attainment of educational objectives.” Improving persistence and retention of students is increasingly recognized as the responsibility of all educators. Yet educators encounter limitations. Even when federal and state laws provide for access, accommodation, and inclusion faculty and staff have reasonable autonomy over teaching practices in their classrooms.

4. A MODEL OF UNIVERSAL DESIGN OF INSTRUCTION

The most important factor in increasing retention and completion rates of students with disabilities in a university setting are policies promoting full academic and social inclusion by increasing natural accommodation, access, engagement, and collaboration in all areas of campus. The current model of petitioning for reasonable accommodation and, therefore, academic access every semester often reduces students’ completion and retention rates by decreasing their sense of belonging and participation levels. Instead the model of universal design of instruction seeks to improve inclusion through making academic and social modifications and access an organic part of the college experience.

a. The Principles of the Model

The universal design of instruction is based on the concept of universal design which originated as an architectural concept. Embry, Parker, McGuire, and Scott maintain the concept of universal design aims to promote access for all individuals with seven original principles (Embry, Parker, McGuire, and Scott 2005). This model and its principles also promote inclusion by making spaces more naturally

accommodating and accessible for all. The seven principles of universal design include:

1. **Equitable Use:** The design is useful and marketable to people with diverse abilities.
2. **Flexibility in Use:** The design accommodates a wide range of individuals preferences and abilities.
3. **Simple and Intuitive Use:** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. **Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. **Tolerance for Error:** The design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. **Low Physical Effort:** The design can be used efficiently and comfortably with a minimum of fatigue.
7. **Size and Space for Approach and Use:** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Black, Weinberg, and Brodwin expand on Embry, Parker, McGuire, and Scott's article through going beyond universal design of learning (UDL) to discuss universal design of instruction (UDI) as well (Black, Weinberg and Brodwin 2015). Similar to Embry, Parker, McGuire, and Scott, they discuss UDL, a concept that encourages faculty to

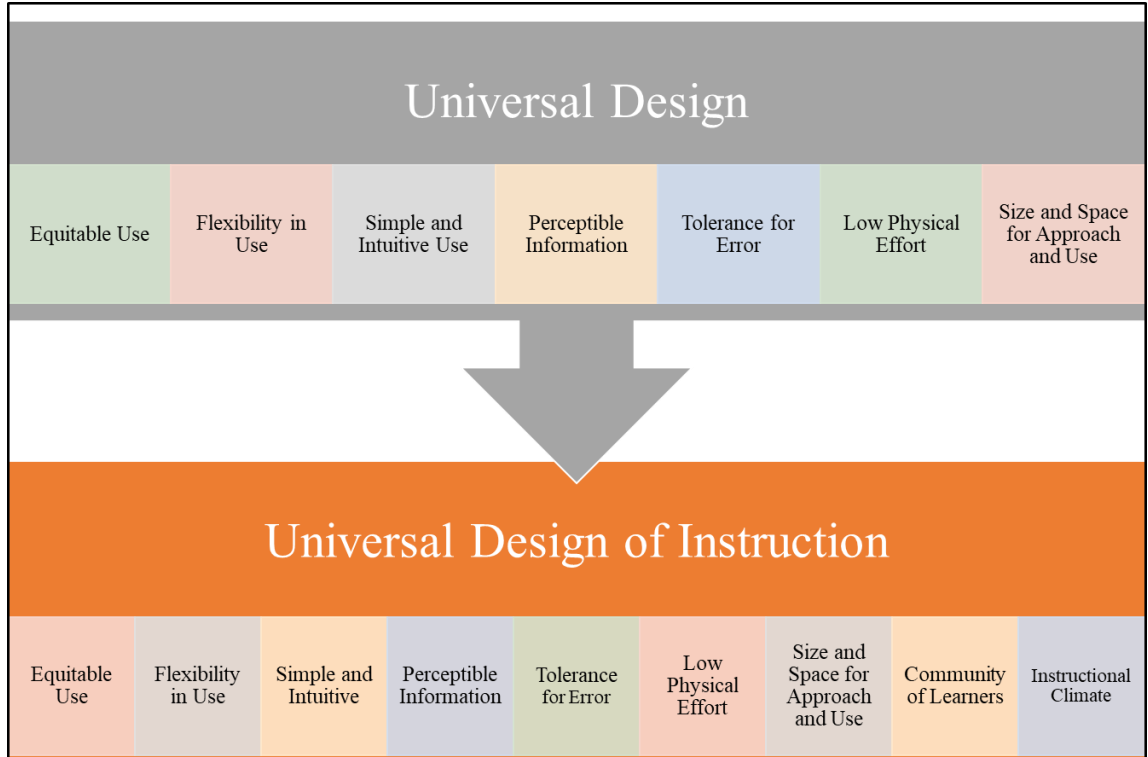
develop courses that provide “multiple means of representation, expression, and engagement” so the greatest number of students can access the material flexibly. Both articles state that UDL applies mostly to the K-12. UDI, on the other hand, uses instructional strategies to benefit a wide range of learners in higher education, specifically. The UDI applies the original seven principles to the university setting but adds two more: “community of learners” and “instructional climate”. Both of these categories emphasize the social and academic inclusion of students with disabilities in institutions of higher learning. The category “A community of learners” represents the “use of tutors, counseling services, class and small-group discussions, and communication and interaction among fellow students” to improve both academic and social inclusion through peer-to-peer interaction as well as other university services. While the category of “Instructional climate” emphasizes the role of instructors in creating a welcoming, inclusive classroom environment and setting high expectations for all students. It specifically highlights the comfort and ease of discussing accommodations, class assignments, grades, or other challenges with faculty members. This ease and encouragement can greatly improve inclusion for students in the classroom setting. Thus, the nine principles of UDI and their definitions are:

1. Equitable Use: Instruction is designed to be useful to and accessible by people of diverse abilities.
2. Flexibility in Use: Instruction provides a choice in methods of use
3. Simple and Intuitive: Instruction is straightforward eliminating unnecessary complexity

4. **Perceptible Information:** Information is communicated effectively to the student regardless of ambient conditions or the student's sensory abilities.
5. **Tolerance for Error:** Instruction anticipates variation in individual student learning pace and prerequisite skill.
6. **Low Physical Effort:** Instruction is designed to eliminate nonessential physical effort to allow maximum attention to learning.
7. **Size and Space for Approach and Use:** Instruction is designed regardless of a student's size, posture, mobility, and communication needs.
8. **Community of Learners*:** Interaction and communication among students and between students and faculty is promoted.
9. **Instructional Climate*:** Instructional climate is welcoming, and inclusive, and high expectations are promoted for all students.

Figure 2 below offers a visual representation of the progression of the concept of universal design to the concept of universal design of instruction. As illustrated, the concept of universal design of instruction flowed directly from universal design. However, the universal design of instruction differs slightly as it focuses on the education setting and adds two new principles: community of learners and instructional climate.

Figure 2.



This thesis compares three universities - University of California in Los Angeles, University of Buffalo in New York, and University of Houston in Texas - to the principles of the universal design of instruction.

b. How the Model Can Impact Completion and Retention Rates

The inclusion of students with disabilities can be improved through concepts such as the universal design of instruction (UDI). This inclusion increases both completion and retention rates. In a focus group study from three college campuses from the northeast, students shared examples of inclusive learning experiences which included effective teaching methods and strategies and approachable and available instructors. Despite being unfamiliar with UDI, the students' observations on inclusive practices correlated strongly with UDI framework, especially Principle 3, 4, 5, 8, and 9 (McGuire and Scott

2006). In a study completed by Parker, Robinson, and Hannafin (2007), a large core course was modified for 114 undergraduates at a public university by using UDI principles. The student evaluations indicated the course was better than other courses offered in the department and other undergraduate courses. Overall, it indicated UDI could improve inclusivity by creating solutions to accessibility challenges in a large core undergraduate classroom. Spooner, Baker, Harris, Ahlgrim-Delzell, and Browder (2007) studied the effects of one – hour training on how to apply the Universal Design for Instruction into lesson plans. The trainees were 72 undergraduate and graduate education students without knowledge of applying UDI principles to lesson plans. The lesson plans the students designed before and after the training suggested even a simple, one – hour training could improve the ability of instructors to develop accessible lesson plans. When faculty and staff used approaches from the principles of UDI, students indicated it allowed them to better succeed in postsecondary institutions in a study completed by Black, Weinberg, and Brodwin (Black, Weinberg, and Brodwin 2015). The faculty members established expectations, provided advanced organizers, the information in multiple formats, gave frequent informative feedback, and used diverse assessment strategies. UDI can promote inclusivity and improve student success in the college classroom and, therefore, increase completion and retention rates.

5. A COMPARISON OF UNIVERSITY POLICIES TO THE MODEL

In compliance with the ADA and Rehabilitation Act, most universities have an office for students with disabilities and an ADA/ 504 Compliance Office or Coordinator that writes and reviews policy, helps with implementation in services and programs, and investigates related issues and reports of discrimination based on disability. This project

will discuss the disability policy for one university of each of three states chosen – California, New York, and Texas and compare them to the model of UDI. The universities chosen are the University of California in Los Angeles, the University of Buffalo in New York, and University of Houston in Texas. For each university, the study will first discuss the services offered, the federal and state laws cited in its disability policies, and lastly compare the policies to the model.

a. University of California in Los Angeles

The University of California in Los Angeles (UCLA)'s Center for Accessible Education (CAE) provides access to education opportunities on campus by facilitating reasonable academic accommodations. Under its online resources, UCLA's CAE provides information on reasonable accommodation, ways to make campus events more accessible and inclusive, the rights of students of with disabilities, the transition between K-12 to postsecondary, assistive technology, information for faculty, and training and tutorials in one centralized webpage. The trainings and tutorials are for faculty and staff to learn more about the accommodation process and the universal design of learning. There is also a UCLA ADA/504 Compliance Office which aims to provide trainings, advice, and address accessibility challenges and discrimination on campus. The resources provided could promote inclusivity on campus in both academic and social spaces as it provides information on the rights of students, the concept of universal design for learning, and instructions on how to make events on campus more accessible.

UCLA's policies promote access and inclusion by providing reasonable accommodation and prohibiting discrimination. According to UCLA's policies, academic reasonable accommodations are mandated by Section 504 of the Rehabilitation Act, ADA

1990, and ADA 2008. Their policies also cite California's Fair Employment and Housing Act (FEHA) and the Federal Fair Housing Act (FHA), as amended by the Fair Housing Amendments Act of 1988 specifically for reasonable housing accommodations and/or modifications in university housing. An explicit example of UCLA's antidiscrimination policies are the directives that apply to campus activities and student organization and students which prohibit "legally impermissible, arbitrary, or unreasonable discriminatory practices" in all groups under the authority of the Board of Regents which includes administration, residence halls, student government, or programs sponsored by the university. This could promote inclusivity beyond the classroom in living spaces, events, and organizations on campus. Although, the phrase students or employees with disabilities is not explicitly stated in this antidiscrimination policy.

After comparing its policies to the model, UCLA appears to offer much in the way of reasonable accommodation but few directives on the full inclusion of students in the classroom and in social spaces. For example, UCLA satisfies all the principles for Equitable Use and Simple and Intuitive. The category of Equitable Use mostly evaluates the university's commitment to providing common types of reasonable accommodation, such as "recording lecture", providing "note takers", or "copy of class notes or lecture slides before class". The outlier in this category is the principle of "accessible classroom and instruction for all diverse abilities". This principle aims to evaluate whether or not the university provides training or advice to faculty and staff on ways of making their classroom and instruction more accessible with the models of UDI. UCLA does provide trainings and information to their faculty and staff on how to use UDI in their classroom

and instruction. Even though the policy is silent on requiring faculty and staff to use UDI in their classroom and instruction.

UCLA also satisfies all the Simple and Intuitive principles. In their policies, they offer clear course expectations, objectives, descriptions, grading, quizzes, and other assignments. UCLA also goes a step beyond both of the University of Buffalo in New York (UBNY) and the University of Houston in this category. UCLA requires faculty and staff to provide timely reminder of due dates for large projects as a reasonable accommodation for students, fulfilling to an extent the principle of providing timely reminder of assignments.

The weakest category was Flexibility in Use for this university. UCLA's policies fail to address any of the principles outlined. The other two weaker categories for UCLA are Perceptible Information and Size and Space for Approach in Use. University policies require faculty and staff to communicate with students about reasonable accommodation and provide access to e-books but do not mandate "quick and timely responses" or "effective communication between students and instructors". The university also makes parking more easily accessible for students and visitors with disabilities in their policies. Yet, they are silent on the design of a classroom to foster communication between students and between students and faculty as well as silent on making campus itself more physically accessible.

UCLA follows this model most closely in their provision of reasonable accommodation and trainings to faculty, staff, and students. Yet its policy is mostly silent

on how instructors should engage and make their classroom and instruction more accessible.

b. University of Buffalo in New York

UBNY asserts their commitment to providing equal access to all individuals with disabilities, including students and faculty. Similar to UCLA, this university has online educational resources not only for reasonable accommodation for the academic and for on-campus housing and explains universal design, the rights of students, and barriers to access. The resources offered outline both academic accommodations such as sign language interpreters, accessible housing and facilities and also workplace accommodations, including time away for treatment without penalty, ergonomic equipment and furniture, and software and other technology to assist with work duties. Similar to UCLA and the University of Houston (UH), UBNY has a required syllabus statement on reasonable accommodation. Unlike the other universities, UBNY also provides easily accessible information on designing accessible course content, meetings, and other electronic information as well as offers faculty and staff the opportunity to meet with an accessibility consultant to improve inclusion in the classroom. Further, the university publishes an Accessibility Blog that discusses ways to improve inclusion and has a Center for Inclusive Design and Environment Access (IDeA Center) which focuses on researching, developing, and designing projects and best practices with the concept of universal design. This resource researches and shares best practices for social and academic inclusion.

The UBNY bases its policies on New York Human Rights Law, Section 503 and 504 of the Rehabilitation Act, ADA 1990, ADA 2008, Executive Order 6, E Executive Chamber Memorandum, entitled Equal Access to State Agency Employment, Programs and Services for Individuals with Disabilities, issued in 1996, Executive Chamber Memorandum Technology Policy 96-13--Accessibility to Technology, issued November 1996, and Technology Policy 99-3: Universal Accessibility for New York State Web Sites, issued September 1999. The policy maintains it applies to programs, services, housing, and activities that occur outside the classroom or office but are “integral part” of the “university experience” for both students and faculty. This policy specifically exceeds the level of inclusion commonly thought to be mandated in federal disability law. While the law provides for reasonable accommodation in academic settings, it is usually narrowly interpreted to accommodations in the classroom or in testing centers. Meanwhile, UBNY’s policies provide for reasonable accommodation through their office of students with disabilities in every activity on campus that is an important part of the university experience for both faculty and students, including social events and activities on campus. The university also provides many year-round opportunities for faculty and students to learn more about making events and classes more accessible with the concept of universal design.

Similar to UCLA, the UBNY meets all the Equitable Use principles by providing many types of reasonable accommodations and UDI trainings to faculty and staff. As previously mentioned, UBNY’s policies fail to mention “timely reminder of due dates” unlike UCLA’s policy. However, this is the only principle missing in the category of Simple and Intuitive for UCLA. Dissimilar to UCLA, UBNY fulfills all the principles for

Low Physical Effort. UBNY's policies encourage and provide forums to report inaccessible classrooms and areas on campus. Like both UCLA and UH, UBNY provides adaptive technology, housing modifications, and accessible online information. UBNY also meets three criteria in the Flexibility in Use category whereas UCLA and UH meet none. UBNY's policy provide guidance to instructors and faculty on how to vary "instructional method" and emphasizes the importance of "small group" and class discussion in hybrid classes specifically, while UCLA and UH's policies are silent.

UBNY policy lacks only one criterion for the Community of Learners principle while UCLA and UH fails to meet four and seven, respectively. Its inclusive policies suggest ways to facilitate virtual and in-person student to student interaction and student to faculty interaction as well as advice on how to make events more accessible on campus while UCLA and UH policies do not recommend ways to engage students in classroom or virtually. The only criteria UCLA does not meet in the Community of Learners category is "creating a variety of learning settings". Its policies are silent on advising faculty and staff how to create a variety of learning settings for students. Overall, UBNY provides reasonable accommodations like UCLA. However, it gives more directives to faculty and staff on how to make the classroom and instructor more accessible and more aligned with models of UDL and UDI.

c. University of Houston

UH asserts its commitment to success of students with disabilities through promoting "self-advocacy" and "inclusion". According to their webpage, UH's Center for Students with DisABILITIES (CSD) offers "disability-related" counseling that

determines and ensures academic, physical, and technical accommodations on campus. The university also provides reasonable accommodations to students for social events organized only by student fee-funded groups and offers an educational tool on Blackboard to improve accessibility. Similar to both UCLA and UBNY, it offers accessible parking for students, faculty, staff, and visitors with disabilities on campus. The university also appears to sometimes offer online self-advocacy training for women with disabilities.

The University of Houston System Administrative Memorandum (UH SAM) for Student Academic Adjustment/ Auxiliary Aids Policy cites the Rehabilitation Act, ADA 1990, and ADA 2008 as the federal laws applying to reasonable accommodation in higher education. Section 1.3 of UH SAM maintains all students with disabilities are afforded “equal academic opportunities in compliance with state and federal laws” and Section 2 defines students with disabilities with the same language as ADA 2008, providing the definition and listing major life activities. Section 4 outlines the instructors’ responsibility for providing accommodation, knowing the policies, informing their students of accommodation, assisting students with disabilities, and having a specific statement about the Center for Students with DisABILITIES (CSD) and reasonable accommodation in their syllabi. Further, CSD’s policies clearly outline Test Administration Procedures, UH Accessible Parking, and Academic Accommodations for Students with Disabilities Policy and Procedures.

Unlike UCLA and UBNY, UH is silent on the concept of universal design and offers no direction or resources on ways to make events and other activities accessible on campus. Even though CSD provides accommodations for student fee – funded events, the

service is not outlined in their policies. Similar to UCLA, overall UH appears to focus more on reasonable accommodation than promoting inclusion through the concept of universal design. Specifically, UH policy seems to be completely silent on how faculty and staff can make the classroom and instruction more accessible. It emphasizes providing reasonable accommodation to students with disabilities in the academic setting. For example, UH fulfills all the principles under Equitable Use except “accessible classroom and instruction for all diverse abilities”. Indicating UH provides reasonable accommodation but does not offer faculty and staff trainings on UDI in their policies unlike both UCLA and UBNY. Similar to UCLA, which also struggles to provide advice to instructors, none of the principles under Flexibility and Use are met, meaning the policy does not offer direction on instructional practices. Again, similar to UCLA, the only principle met under the category of Size and Space for Approach and Use is “making parking easily accessible”. Both universities’ policies are silent on making campus and the classroom more accessible and encouraging effective communication between students and students and faculty. UH does not require faculty and staff to provide timely reminders of due dates under the category of Simple and Intuitive, although it does meet all the other principles. UH’s policies offer more guidance on reasonable accommodation than on full academic and social inclusion.

6. FINDINGS, RECOMMENDATIONS, AND CONCLUSIONS

Many colleges and universities in the U.S. are committed to improving the retention and completion rates for students while reducing achievement gaps for underrepresented student groups. In 2018, the Association of Public and Land-grant Universities (APLU) affirmed their commitment by announcing a college completion

project to improve graduation rates and student success in public universities. Governmental agencies such as the Texas Higher Education Coordinating Board (THECB) also have launched projects with the goal of increasing Texas’ retention and completion rates. However, because of inadequate social and academic inclusion, these rates are often lowest for students with disabilities in the postsecondary setting. The model of UDI can improve retention and completion rates for students with disabilities through facilitating full inclusion in academic and social spaces.

a. Findings

1. *Table 1* depicts the comparison of the disability policies of UCLA, UBNY, and UH, to the UDI model to better understand how the UDI can be applied to a university setting.

Table 1.

	UCLA	UBNY	UH
Equitable Use	+	+	+
Flexibility in Use	-	+	-
Simple and Intuitive	+	+	+
Perceptible Information	-	-	-
Tolerance for Error	-	-	-
Low Physical Effort	+	+	+
Size and Space	-	-	-
Community of Learners	-	+	-
Instructional Climate	+	+	+

As illustrated in *Table 1*, UBNY met the most principles in the model by providing faculty, staff, students, and the overall campus community with the most guidelines, mandates, and trainings on the model of UDI and UDL. Although UCLA and UH met the same amount of principles, UCLA met each principle to higher degree than UH. UCLA provided faculty and staff training on the principles of UDI and UDL whereas UH offered none. Overall, both UCLA and UH offered very few policy guidelines and mandates for the model of UDI and emphasized reasonable accommodation over full inclusion. Full inclusion must be emphasized more in order to improve retention and completion rates among students with disabilities in higher education institutions.

2. The category of Equitable Use sought to mostly measure the inclusion of reasonable accommodation in each university and included one indicator to measure whether or not the universities had UDI or UDL trainings for faculty, staff, and students. Because they have trainings and reasonable accommodation, UCLA and UBNY fulfilled all the indicators whereas UH missed the indicator for UDI training since it is not offered. Trainings for UDI is imperative as it teaches faculty and staff how make their instruction and classroom more inclusive, ultimately helping improve retention and competition rates.

3. For the principle of Flexibility in Use, UBNY was the only university to meet any of the indicators. Unlike the other universities, they actively encouraged inclusive teaching practices such as varying instructional methods and small group and classroom discussion in their policies.

4. In the category of Simple and Intuitive, UCLA met all the indicators by requiring instructors to provide clear course expectation, grading policies, due dates, and objectives as well as provide timely reminder of due dates. UBNY and UH failed to require instructors to provide timely reminder of due dates as an inclusive practice in their policies.

5. All three universities meet only two indicators in the Perceptible Information category. They all required instructors to provide reasonable accommodation in regard to communication and alternative or e-books, but they did not mandate that instructors or the office of students with disabilities services facilitate timely and effective communication.

6. The universities also all met the same number of indicators for the Tolerance for Error principle. They provided writing labs, free tutoring services, remedial classes, and placement testing to accommodate for the student's prerequisite skill and learning place. However, none of their policies mandated peer or self-reflection in the classroom or feedback. These practices especially can actively engage and include students throughout the semester.

7. All the universities provided types of adaptive technology, housing accommodation, and accessible information online in the category of Low Physical Effort. However, only UBNY provided a reporting tool to make campus and the classroom more physical accessible and inclusive for all types of learners.

8. For the category of Size and Space for Approach and Use, all the universities provided accessible parking for students, visitors, and faculty with disabilities. Also,

UBNY sought to make campus more easily accessible. Otherwise, the universities struggled to mandate fully accessible and inclusive social and academic spaces. A classroom or a social space that follows the model of UDI can improve participation, collaboration, sense of belonging, and overall inclusion for students with disabilities which increases both retention and completion rates.

9. UBNY also fulfilled the most indicators for the Community of Learners principle while UCLA and UH did not mandate instructors to help build an inclusive learning community. UCLA's policies offered instructors a variety of ways to improve engagement and interaction between students and students and faculty. While UH and UCLA were silent on the topic of engagement in their policies. Further, both UCLA and UBNY offered faculty, staff, and students information and training on how to improve the inclusivity of events on campus whereas UH does not. None of the universities required instructors to create a variety of learning settings to engage different types of learners. Overall, UCLA and UBNY did not have the policies in place to effectively create an inclusive learning community.

10. According to their policies, all three universities met most of the principles of Instructional Climate. This principle aimed to create an inclusive academic environment by encouraging reasonable accommodation, providing access to assistive technology, and welcoming all students. Yet, they all failed to require instructors to discuss high expectations at the beginning of the course and throughout the semester. This indicator is important in encouraging include all students and motivate all to stay in the course and complete their degrees.

b. Recommendations

1. The most important factor in increasing the retention and completion rates for students with disabilities is to improve social and academic inclusion in postsecondary institutions. Each principle of the model of UDI discussed in the previous section facilitates full social and social inclusion in institutions of higher education. Therefore, all universities should mandate the principles of UDI explicitly in their policies in order to reach their goal of increasing rates of retention and completion.

2. In order to ensure the policies on UDI are properly practiced, universities should provide frequent virtual and in-person trainings to instructors, other faculty and staff, and students on how to implement the model of UDI in the physical classroom, instruction, communication, social spaces, and events on campus. Similar to UBNY's services, individual consultation for UDI also should be offered to instructors to better improve inclusion and, therefore, retention and completion rates at universities.

3. University policies should explicitly outline and define specific instructor best practices such as varying instructional methods, providing feedback often, ways to create a welcoming environment, facilitating small group discussion and reflection and effective communication to increase knowledge and use of these inclusive practices.

4. Each university should provide the campus community an online tool to report inaccessible classrooms and other spaces. University facilities should also actively seek to modify classrooms and places where campus is not physically accessible or inclusive.

c. Conclusions

The definition of disability is a biomedical one. The lack of a social dimension to the definition of disability places the burden for inclusion is on the individual rather than the institution being placed in the position of focusing on the inclusion of individuals with disabilities in the university setting. Improving the academic and social inclusion of students with disabilities will conceivably increase retention and completion rates. Although they attend institutions of higher education at similar rates to student without disabilities, students with disabilities have significantly lower retention and completion rates and tend to take longer to complete their degree. However, students with disabilities are guaranteed sufficient access and accommodation in university policies as a result of mandates from federal and state antidiscrimination laws such as the Rehabilitation Act and ADA. After reviewing the literature and qualitative studies, this thesis identified full social and academic inclusion as the key to increasing retention and completion rates. The model of UDI is one of the best ways to improve inclusion by implementing its nine principles in university policy.

To better understand the implementation of the model of UDI, this thesis compared the policies of three universities, UCLA, UBNY, and UH, to each principle. This comparison identified UBNY as the most inclusive university in this study. However, this field of study lacks the longitudinal data to indicate whether or not this high level of inclusion actually correlates to higher retention and completion rates for students with disabilities. Thus, in future research, next steps would be to identify three universities that do not follow the model of UDI and compare their retention and completion rates to the three universities in this study. This approach would demonstrate whether or not implementing the model of UDI effectively increases retention and

completion rates for students with disabilities at institutions of higher education in the U.S.

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Appendix 1.

Figure 1. The Relationship between Reasonable Accommodation, Access, and Inclusion, 15

Figure 2. The Flow of the Model of Universal Design to the Model Universal Design of Instruction, 22

Table 1. The Comparison of UCLA, UBNY, and UH to the Model of Universal Design of Instruction, 32

Appendix 1. Matrix Explaining the Model of Universal Design of Instruction, 45

Equitable use	Flexibility in use	Simple and Intuitive	Perceptible Information	Tolerance for Error	Low Physical Effort	Size and Space for Approach and Use	Community of Learners	Instructional Climate
Clear Course Information	Varying instructional methods	Clear and written course expectations	Effective communication between students and instructors	Providing continual feedback	Adaptive technology	Making seats in the classroom more easily accessible	Creating a variety of learning settings (classroom, book, email, articles, museums, movies)	Statement of reasonable accommodation in syllabus
Accessible classroom and instruction for all diverse abilities	Varying opportunities for expression - tests, presentations, conversations, etc.	Clear grading scale	Provide reasonable accommodation to foster communication	Accommodate for student's learning pace	Accommodation/ UD housing	Seating where student can communicate easily with each other	Creating virtual and in-person forums for students to students interaction	Discuss reasonable accommodation and willingness to accommodate in beginning of the semester
Equal access to class materials	Small group discussion	Clear presentation of assignments, readings, quizzes, and other due dates	Quick and timely response	Accommodate for student's prerequisite skill	Physically accessible and inclusive classroom	Seating where student can communicate easily with the instructor	Creating virtual and in-person forums for student to faculty interaction	Discuss high expectations for all students
Copy of class notes or lecture slides before class	Class discussion	Timely reminder of due dates	Effective communication between students and office of students with disabilities	Develop opportunities for self-assessment and reflection	Accessible online information	More physical space	Encouraging communication in the classroom	Classroom is welcome to all students
Recording lecture	Less videos	Clear class goals and objectives	Provision of alternative or e-books	Develop opportunities for peer assessment and reflection		Making campus more easily accessible	Variety of forums for communication	Discuss access to tools and assistive technology on campus
Note takers	Less lecture			Writing labs		Making parking easily accessible	Opportunities for tutoring	
Sharing class notes				Feedback before final paper/project			Opportunities for counseling services	
							Opportunities for faculty and staff to attend UDI/UDL trainings	

							Information and training on how to make events more accessible on campus	
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