A Model for Culturally Sustaining Instructional Design

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A student's culture plays a role in learning, and research suggests instructional designers may be able to enhance the online learning experiences for diverse students. Because there is not one prevailing model or framework for adapting learning systems to be inclusive of cultural diversity, we propose a new model, Culturally Sustaining Instructional Design (CSID), that modifies and synthesizes the Integrated Multicultural Instructional Design model and Culturally Sustaining Pedagogy principles. The CSID model will help instructional designers reflect on the higher education system and how their own cultures and biases shape their design decisions for socially just online learning environments.

Introduction

Higher education has seen tremendous growth in recent years, with global enrollment rates doubling in the past two decades, according to a United Nations Education Scientific and Cultural Organization (UNESCO) report (Vieira et al., 2020). As part of this expansion, students from increasingly diverse backgrounds have been enrolling in higher education institutions. However, key performance indicators such as retention and graduation rates continue to show significant advantages for the dominant, traditionally represented populations in higher education within the United States, such as White students and students from higher-income families who are not pell grant recipients (National Center for Education Statistics, 2022; National Student Clearinghouse Research Center, 2021).

Many higher education institutions are challenged by retaining and graduating historically underserved students. These students are often students of color, first-generation college students who are the first in their families to attend college, and students from low-income households. Research has documented that historically underserved students do not share the same level of success as their White and higher-income counterparts (Green, 2006); this performance difference has been characterized as a "success gap" (Buchan et al., 2020; Green & Wright, 2017). The success gap has increased over time, even as historically underserved students, such as first-generation college students, underserved racial minorities (URM) students, and students from low-income backgrounds, have increased enrollment in higher education and the popularity of online courses has grown (Cataldi, et al., 2018; Engle & Tinto, 2008; National Center for Education Statistics, 2019; National Student Clearinghouse Research Center, 2021; Utuk, 2018).

One way to understand differences between students is in terms of culture, the unique combination of a learner's social identities, characteristics, histories, experiences, and values that influence their way of navigating systems, engaging with content and media, and demonstrating their learning (Hunt & Oyarzun, 2020; Yosso, 2005). Culture varies between different learners and influences learning experiences. To further complicate matters, the pushes and pulls of these influences can vary by context and over time. In other words, a learner's culture is not permanent, singular, fixed, or static (Heaster-Ekholm, 2020). Instead, culture is malleable and constantly evolving. Furthermore, multiple cultures may coexist and intersect to influence a learner's perspective of their learning environment, "including cultures based on demographic characteristics such as race, gender, ethnicity, nationality, and social class, as well as organizational cultures, group cultures, learning environment cultures, etc." (Benson, 2018, p. 329).

In addition to more—and more diverse—students entering higher education, the potential locations where learning can happen have continued to expand, beginning with the advent of the internet several decades ago and spreading further with social media platforms in the past decade. These changes have created locations for numerous different online learning environments, or spaces hosted through the internet that provide students access to learning resources, tools, and communication media (Green & Wright, 2017; Woodley et al., 2017).

Ideally, having more possibilities for where learning can occur would also mean more opportunities for culturally sustaining online learning environments. Culturally sustaining means acknowledging and supporting the cultures of increasingly diverse learners (Bhagat et al., 2018; Green & Wright, 2017; Woodley et al., 2017) to "perpetuate and foster —to sustain—linguistic, literate, and cultural pluralism" (Paris, 2012, p. 95). Research has shown the benefits of these spaces and calls for a systematic approach to address the success gap in higher education (Kerr et al., 2020; Simunich & Grincewicz, 2018). For example, graduation rates may be positively impacted for historically underserved students if online learning environments are intentionally designed to aid the persistence and success of diverse learners (Bhagat et al., 2018). However, despite the noted benefits of including and supporting all learners, much more research is needed to understand this phenomenon and develop action steps for those hoping to design culturally sustaining online learning environments (Fermín-González, 2019). To achieve such online learning environments, a culturally sustaining instructional design process would utilize pedagogy, learning activities, tools, and content that positively reflect, engage, and sustain learners' sociocultural perspectives, cognitive diversity, and communities in the teaching and learning process (Akinrinola et al., 2020).

The Role of Instructional Designers

Instructional designers play a key role in ensuring that diverse learners have opportunities and spaces for learning that are well suited to them (Yang et al., 2010). With their responsibility to plan and build online learning environments, instructional designers are uniquely positioned within the higher education system to attend to the needs of diverse learners and plan for spaces that are culturally sustaining. However, several challenges mean that this work does not always happen quickly or easily.

First, many instructional designers, especially those who have gone through traditional preparation programs, have not been trained or equipped to design online learning environments with diverse learners in mind (Simunich & Grincewicz, 2018). Although issues of equity in education have become more popular in research and practice, instructional design education and practice have lagged (Fermín-González, 2019). Research has found that although many online faculty believe designing online learning with cultural inclusivity in mind is important, they lack the knowledge of how to implement this belief in their educational practices (Kumi-Yeboah, 2018).

Second, instructional designers navigate competing priorities during the design and development process for online learning. These competing priorities follow the trends described at the outset of this article: today there are more students in higher education, more diverse students representing more cultures, more possibilities for learning environments, and an ever-expanding list of new educational technologies. Instructional designers navigate the tensions and emerging complications associated with each of these factors to imagine learning systems in new and equitable ways.

In the face of these challenges, instructional designers must take intentional action to develop and implement culturally sustaining online learning environments with the intention of both improving all students' learning experiences as well as minimizing the success gap (Kumi-Yeboah & Amponsah, 2023). First, they must take the time to understand the history and systems of higher education and seek to minimize the effects of the systemic inequalities higher education has perpetuated in the past (Denaro et al., 2022). Second, they need to reflect on their own biases—both conscious and unconscious prejudices—to design learning that is appropriate for diverse students, not just an assumed norm (Moore, 2021). Finally, instructional designers need to select and use instructional design models that will direct their attention to—rather than ignore or distract from—learners' individual backgrounds, experiences, and needs. We describe these three actions in the following paragraphs.

Understanding the Learning Systems of Higher Education

As a first intentional action, instructional designers must learn from the past to understand the systems of higher education (Denaro et al., 2022; Stroh, 2015). The historic foundations of higher education were created to serve only white and wealthy, male students, and these exclusionary practices can still be felt throughout the systems of higher education today (Denaro et al., 2022). Higher education is a system that can create, reinforce, and maintain social inequality and bias by promoting cultural practices from the dominant view (O'Shea, 2016). The unchallenged, default, dominant norms in higher education reinforce "patriarchal, cisheteronormative, English-monolingual, ableist, classist, xenophobic, Judeo-Christian" views (Alim & Paris, 2017, p. 2). The learning systems, courses, and instructors of higher education cannot move beyond their origins without consciously designing courses to be more inclusive (Denaro et al., 2022; Stroh, 2015).

However, designing culturally sustaining online learning environments is easier said than done, because the process is complicated by higher education's history of perpetuating numerous systemic issues (Denaro et al., 2022). For example, faculty members who teach and conduct research may also write textbooks that they use within their classes; in other cases, a foundational course may be passed down from instructor to instructor without reimagining its design or reconsidering the reading materials and learning resources. Against researchers' recommendations, this limits the number of perspectives shared in the online learning environment (Kumi-Yeboah & Amponsah, 2023). Instead, faculty and instructional designers should advocate for providing resources and textbooks from multiple perspectives, in addition to supporting students' crafting their own perspectives, to help students gain a greater understanding of power dynamics and develop respect for cultures different from their own (Kumi-Yeboah & Amponsah, 2023). Addressing social justice issues in the higher education system requires intentional design choices.

Reflecting on Their Own Biases

As a second intentional action, it is recommended that instructional designers identify and reflect on their own biases (Baker et al., 2018). To minimize the effects of higher education's historic, dominant norms, instructional designers must start with awareness of the broader system, but they must also look within to realize their personal biases being carried into and through the design and development process (Moore, 2021). This systems approach highlights the relationship between the core beliefs of the instructional designer, their actions through design, and the reality of how students experience those design decisions (Flood, 2010; Stroh, 2015). Only with this critical self-awareness can instructional designers think differently than the dominant norms and choose to consider both learners' diverse cultures and the increasing variety of distinct learning environments (Denaro et al., 2022; Kumi-Yeboah & Amponsah, 2023).

We define bias to include both inherent systematic processes and overt personal beliefs, opinions, attitudes, or tendencies to support and reinforce stereotypes (Denaro et al., 2022). In other words, sometimes instructional designers are aware of their biases, but often they are not. Sometimes design decisions are influenced by unconscious prejudices. These prejudices can inadvertently reinforce inequity in learning systems rather than ensuring that learners from many backgrounds and cultures have the best chance to learn (Baker et al., 2018). For example, an instructional designer's biases can lead to misinterpreting content and result in over-emphasizing voices from the majority culture at the exclusion of alternative views and explanations. Without reflection, instructional designers may end up creating content and learning systems that are only suited for learners who are already empowered, while making learning more difficult, or impossible, for others (Parrish & Linder-VanBerschot, 2010). Many researchers have critiqued the field of

education for doing just this—reinforcing systemic inequalities by planning and designing for the majority culture, reflecting systems that have been passed down through the formal education of teachers and instructional designers (Bourdieu, 1986; Denaro et al., 2022; Moore, 2021; Yosso, 2005).

With a foundational understanding of their biases, instructional designers become further aware of their complexity as people. No one holds just a single identity; people navigate systems within themselves as their identities intersect and change across contexts and over time. These intersectional identities involve overlapping social understandings and positions that can be both empowering and oppressive (Nichols & Stahl, 2019). For example, workshop facilitators have used an intersectionality wheel to help faculty identify which of their own identities experience privilege and which identities experience oppression in academia (Kellam et al., 2021). Similarly, instructional designers need to practice looking at how their own intersectional identities impact the decisions they make when planning and developing learning spaces meant to include a wide variety of learners (Dukes, 2019; Qayyum, 2016).

Like the faculty workshop, instructional designers should reflect on their own intersectional identities and how they have experienced privilege and oppression within online learning environments (Nichols & Stahl, 2019). These past experiences inform their design decisions, such as how learning objectives are written and assessed, who is represented in selected media, and which scholarly perspectives are amplified within the learning environments (Baker et al., 2022; Kumi-Yeboah & Amponsah, 2023; Nichols & Stahl, 2019). This reflective work is necessary because, as McIntosh (1989) argued, people who are not taught to recognize their own privileges, such as being White and/or a man, will be unaware of what they do not know. This provides an opportunity for instructional designers to become more attentive to their assumptions and biases when designing and developing online learning environments for diverse students.

Selecting an Instructional Design Model

As a third intentional action, instructional designers must become familiar with, select, and use instructional design models (i.e., structured processes for designing effective and engaging learning experiences [Merrill, 2016]) that will direct their attention to—rather than ignore or distract from—learners' individual backgrounds, experiences, and needs. Once again, this is easier said than done. The job description of professionally trained instructional designers has become increasingly complex due to numerous frameworks and models put forward by instructional systems design researchers, with even more models to consider when aiming to design for culturally sustaining learning (Utuk, 2018). Instructional designers are directed to consider a myriad of factors, such as pedagogy, learning activities, tools, and content which positively reflect and engage students' sociocultural and cognitive diversity in the teaching and learning process (Akinrinola et al., 2020).

Many instructional design models and frameworks have been created by designers from the majority culture and, like the systems of higher education, preserve and reinforce historical, dominant norms that serve some learners at the exclusion of others (Moore, 2021). Although traditional instructional models are empirical, they are not neutral and always contain bias (Heaster-Ekholm, 2020). For example, the ADDIE process and the Dick and Carey model (1978) are two of the most widely used approaches to instructional design. Unfortunately, such traditional approaches were socially and culturally constructed without questioning their suitability for diverse online learners (Henderson, 1996).

ADDIE is one of the most widely used instructional design product development processes that stands for analyze, design, develop, implement, and evaluate (Branch, 2009). Heaster-Elkholm (2020) pointed out in their cultural critique that there is nothing explicitly addressed in ADDIE that addresses learner diversity or cultural differences. This creates space for the majority lens to be further perpetuated by not prompting the designer to rethink the decisions they make during each step of the ADDIE process (Moore, 2021).

The Dick and Carey model (1978) decentered learners, instead prioritizing the instructor or designer lens to write goals and designating the forms of knowledge that have been determined for the learning context (Heaster-Ekholm, 2020). This process removes the power from learners' experiences by giving full authority to the instructor and designer to decide on the learning process. In contrast, the development of a culturally sustaining model would require instructors

and designers to understand students' pressing needs—moving from a deficit approach to a strengths model and de-centering the dominant view in the learning system (Paris et al., 2017).

To remedy the gap between traditional instructional design models and the experiences of diverse learners, researchers have attempted to infuse cultural inclusiveness into traditional instructional design models (Heaster-Ekholm, 2020; Young, 2008). For example, Gómez-Rey et al. (2016) proposed that instructional designers should identify critical learning factors for each culture represented within a course and implement a wide range of learning activities to appeal to a variety of cultural backgrounds, instead of repeating the same activity. In addition, instructors could use culturally sustaining strategies such as modeling inclusive behaviors in learning activities and gaining awareness of their students' cultural backgrounds, values, assumptions, and patterns of behavior (Yang et al., 2010). Instructors should also be cognizant of how a student's cultural background may impact their coursework and build awareness of possible cultural biases in grading processes (Yang et al., 2010).

Infusing cultural inclusion to supplement traditional instructional design models has benefits, but this approach does not fully address equity concerns. Unfortunately, to date, inclusivity research has tended to focus on the accessibility of learning environments rather than the design of culturally sustaining approaches to meet the needs of diverse learners (Fermín-González, 2019). This means that many design and learning strategies may be labeled as "inclusive" while not actually serving the growing population of culturally diverse learners entering online education (National Center for Education Statistics, 2019). Much more work is needed to understand the needs of diverse learners and design culturally sustaining learning experiences that benefit all learners.

Culturally Sustaining Instructional Design Model

One inclusive instructional strategy in isolation is not sufficient to create an effective learning environment for diverse learners (Simunich & Grincewicz, 2018)—instead, a systemic model is key (Stroh, 2015). To develop such a model, instructional designers may select a set of instructional strategies, media, and tools to form a culturally sustaining system that reinforces a values-driven pedagogy throughout the learning environment to increase the effectiveness for diverse learners (Newman, 2015). These decisions should be made proactively ahead of time rather than as an afterthought (Grier-Reed & Williams-Wengerd, 2018).

Ideally, an instructional design model would help designers reflect on which set of instructional strategies, media, and tools to include while also planning how to align these with the cultures of their diverse learners (Utuk, 2018). However, a persistent issue remains in that there is not one prevailing instructional design model for adapting learning systems to be culturally sustaining and inclusive of various social identities, experiences, and histories.

With these considerations in mind, we propose a new way forward by introducing a Culturally Sustaining Instructional Design (CSID) model. The CSID model brings together two different sets of assumptions and perspectives: an objective domain—a system of knowledge, skills, and best practices—and a subjective domain consisting of values or norms that may differ by learners' cultures (Biesta & Miedemac, 2002). Integrating these two domains into a single CSID model applies systems thinking to highlight the interconnectedness of the objective and subjective perspectives—as well as learners' potentially many different cultures within the subjective domain—and how these different aspects influence each other (Meadows, 2008). Through systems thinking, the CSID model harnesses complexity to communicate a clear vision forward (Stroh, 2015) and shows learners how their actions connect them to the world (Flood, 2010).

In the following paragraphs, we describe how CSID combines objective and subjective domains in a new way. We first address limitations of previous models that focus separately on either the objective or subjective domain. Next, we synthesize the objective and subjective domains into the CSID model. We then address principles to guide instructional designers and applications through two scenarios that explain how the CSID principles may be put into practice.

Objective Domain

The objective domain of CSID is a systematic and structured way of outlining knowledge and skills for the learner, utilizing the Integrated Multicultural Instructional Design (IMID) model (Schultz & Higbee, 2011). IMID supports instructional designers by isolating decision-making for instructional strategies, such as assessment and content, and creating a process for reflection and promotion of strategies to integrate multicultural content.

The development of the IMID model included a long history of models that ran the gamut from open-ended processes to one-dimensional frameworks that focused on specific strategies to create a learning environment for diverse learners. Some of the most popular instructional design models, such as ADDIE, can address multiple variables of cultural complexity through open-ended interpretations of each section of the model (Göksu et al., 2017). Meanwhile, other models only address one specific design factor. For example, the Multiple Cultural Model (Henderson, 1996) focuses solely on culture-based design elements. Despite its narrow emphasis, the model is useful because it directs attention toward the multiple cultures and intersectionality that might influence a student's experience in an online learning environment.

Drawing on these different instructional design models, IMID was created to consider diverse learners' social identities when designing courses (Schultz & Higbee, 2011). IMID was visualized as an unfolded pyramid with four triangular sides surrounding a square base; each side includes a guiding principle for instructional designers to foreground the learner's perspective. For example, one side reminds designers to consider global perspectives and enhance access to academic support resources. The IMID model focuses attention on learners' identities while also providing a foundation upon which specific culturally sustaining considerations can be added (Higbee et al., 2012; Higbee et al., 2010).

Subjective Domain

The subjective domain of CSID is a pedagogical lens through which values and norms are implemented in a learning environment (Biesta & Miedema, 2002), based on the Culturally Sustaining Pedagogy (CSP) model (Paris, 2012). CSP supports the value of a multiethnic and multilingual future in education by "sustaining the cultural and linguistic competence of [learners'] communities while simultaneously offering access to dominant cultural competence" (Paris, 2012, p. 95). CSP draws from an earlier model of Culturally Responsive Pedagogy (Gay, 2000) that was originally intended for K-12 students and later adapted for use in higher education (Larke, 2013). Some of the higher education strategies included revising syllabi and redefining assessments to engage students by connecting assignments to their lives. Woodley et al. (2017) then took the next step to adapt these strategies to online learning environments.

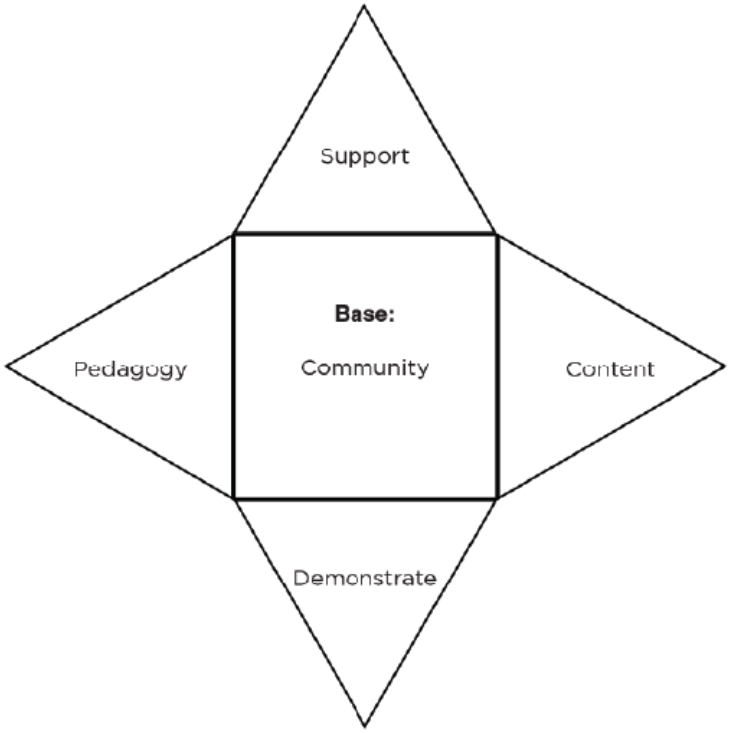
Building upon these earlier iterations, CSP moves beyond multicultural elements and cultural relevance to also affirm and sustain the cultural heritage and backgrounds of diverse students and their communities (Goin Kono & Taylor, 2021; Paris et al., 2017). Keeping in mind that people's relationships with their identities are fluid and ever-changing, CSP emphasizes maintaining cultural competency through the evolving ways contemporary language and culture are experienced (Paris, 2012). This means not over-generalizing instructional design strategies based on any specific identities held by some learners (Paris, 2012). CSP aims to move toward humanizing resource approaches to education and away from dehumanizing deficit perspectives.

Synthesizing the Objective and Subjective Domains

By infusing the objective IMID model with subjective CSP, the CSID model invites instructional designers to analyze each decision, instructional task, and content through distinct objective and subjective domains. Because CSP (Paris, 2012) was published after IMID (Higbee et al., 2010), IMID integrates a more antiquated view of multicultural instruction. Thus, the CSID model updates IMID's pedagogical lens, or subjective domain, with CSP to sustain and extend cultural practices in the online learning environment. We depict CSID as an unfolded four-sided pyramid (Figure 1), following the original IMID visualization (Higbee et al., 2012).

Figure 1

Culturally Sustaining Instructional Design Model



In our new model, we update the IMID model to integrate a CSP perspective into the base (i.e., the square at the center of the unfolded pyramid)—this directs attention to the community of postsecondary scholars, practitioners, learners, and their communities.

- **Community: Who we learn with / Who we connect learning to**

Adding the community base foregrounds various facets of students' identities and their communities of cultural wealth (Yosso, 2005; Higbee et al., 2012).

Each of the four unfolded sides of the pyramid (i.e., the triangles around each side of the square base) highlights the learner's perspective and their diverse human experiences. This centers learners in the process of designing and implementing instruction (Higbee et al., 2012). The four learner-centered prompts, which may be addressed in any order, include:

- **Content**: What we learn / What we teach
- **Pedagogy**: How we learn / How we teach
- **Demonstrate**: How we demonstrate what we have learned / How we assess learning
- **Support**: How we access academic support services / How we support learning

Principles for Culturally Sustaining Instructional Design

We incorporate additional CSP considerations into the IMID model through the guiding principles related to the four sides of the CSID pyramid. The guiding principles for the base and sides of the pyramid highlight relationships between the sides rather than utilizing a sole individual side of the model, such as implementing a stand-alone instructional strategy and expecting the online learning environment to become inclusive. Additionally, the guiding principles focus on the instructional designers' decision-making and the listed prompts provide a systematic approach for the

instructional designer to reflect upon while in the design and development process. We describe these guiding principles here and then further illustrate their applications through two possible scenarios in the next section.

Community: Who we learn with / Who we connect learning to

- Build trust within the learning environment with flexibility and accountability
- Share multiple perspectives on the content
- Create an open space for learners to craft their own perspectives and use their authentic voices
- Extend learning outside the classroom to learners' communities and current events that impact their communities
- Construct personal connections between learners, mentors, and scholars for continued learning and a network of support

Content: What we learn / What we teach

- Determine what content proficiency is essential for each class, program, and support service.
- Establish course objectives that reflect essential course components and do not exclude students based on gaps in prior knowledge.
- Meet or exceed professional standards of excellence in content proficiency within an environment of inclusion.
- Integrate multiple perspectives, cultures, linguistic histories, communities, and global examples from authors who are not traditional or mainstream academic voices.
- Connect content to historical trends, current events, and future directions of contributors with diverse social identities.

Pedagogy: How we learn / How we teach

- Promote understanding of how knowledge and personal experiences are shaped by the contexts, social identities, and histories that we embody.
- Work collaboratively to construct knowledge.
- Explain that learning is a complex process that involves many layers of reflection.
- Integrate skill development with the acquisition of content knowledge.
- Communicate clear expectations in terms of learning objectives, engagement in the teaching and learning process, and evaluation measures for teaching and learning.
- Apply strategies that sustain and value learners' culture, abilities, experiences, and ways of knowing.

Demonstrate: How we demonstrate what we have learned / How we assess learning

- Develop multiple ways for students to demonstrate knowledge.
- Encourage students to use creative, critical thinking, and problem-solving skills to demonstrate knowledge.
- Establish a clear link between course or program objectives and the content knowledge and skill acquisition being asked to demonstrate or assessed.
- Minimize bias in the assessment of student learning by reflecting on perspectives and biases held that may shape assessment output.
- Use both formative and summative assessment measures.

Support: How we access academic support services / How we support learning

- Maintain the delicate balance between challenge and support.
- Support skill development and content knowledge acquisition through cultural community and mentorship programs.
- Incorporate cognitive, affective, and emotional aspects of learning.
- Collaborate and partner with select institutional resources, faculty, speakers, and alumni.

Applications of Culturally Sustaining Instructional Design

In the following paragraphs, we outline two scenarios for applying the CSID model. The first scenario applies CSID to improve outcomes for students from low-income backgrounds and historically URM in higher education. The second scenario applies CSID to improve accessibility in online learning environments. In describing the first scenario we argue for the importance of using the CSID model; in the second scenario, we emphasize that CSID is meant to supplement, not compete with, other models.

Scenario One: Supporting Historically Underserved Students in Higher Education

Each side (i.e., triangle and square base) of the CSID model, prompts instructional designers to consider the learning environment in terms of each of CSID's five guiding principles, focusing on one side at a time but in any order. For example, the content section (i.e., What we learn, What we teach) prompts the instructional designer to reflect on how they will integrate multiple perspectives that are not the majority in traditional higher education. Following this prompt, the instructional designer may spend additional time seeking new learning resources and considering whose perspectives will be perpetuated in the course by selecting those resources. Similarly, the instructional designer may consider systematically reviewing all of the CSID prompts and incorporating these ideas before and during the development of the learning environment.

Community

Designers should build a foundational base of community and associated cultural wealth for learners before collaborative learning activities are assigned by providing time to build rapport with and between students. In this scenario, examples of the Community principle may include assigning an introductory video discussion, person-to-person meetings with faculty and/or peers, or another creative technology for students to connect their lives to the curriculum before any new content is presented to the learners.

Content

Designers should create access to diverse perspectives in the learning materials by consistently looking at the cultural backgrounds of the creators of the content shared in the learning environment. Examples of the Content principle may include reviewing the visual, audio, and text materials that are used as content to help learners demonstrate their knowledge. Designers should pay close attention to who shares whose narrative(s) in your selected content media. Search for and share content media from a variety of cultural perspectives.

Pedagogy

Designers should craft learning objectives and a variety of assessments that connect to diverse learners' experiences. Because learning objectives should align with learning activities and assignments, designers should consider a deep audience analysis to provide learning activities and clear expectations that align with your specific audience's cultural norms. Examples of the Pedagogy principle may include accepting a variety of formats from different students to achieve the same learning objective or changing the assignments with each new cohort.

Demonstrate

Designers should assign active learning activities to connect learners' current knowledge and social capital to the new content being presented. Designers should also pay close attention to how the examples used in the content and context of the learning activities are crafted to help learners from different cultures connect their previous knowledge to build new knowledge. Examples of the Demonstrate principle may include learners creating their own connections from their communities to the content presented, or a specifically curated list of examples and contextual parameters for a learning activity based on the audience analysis, such as coding solutions for hair braiding designs (Lachney et al., 2021). When assessing learning activities, design should re-evaluate how rubrics or grading measures were created and analyze whether they perpetuate the biases held by the instructor.

Support

Designers should support students through their learning journey by connecting them to student services and other networks on campus. Examples of the Support principle may include presenting a personal contact to the writing center or walking the student through how to set up an appointment with a peer writing coach when giving feedback on an assignment. Designers should be knowledgeable about the student, their learning journey, and how best to connect that individual to student support services.

Scenario Two: Improving Accessibility in Online Learning Environments

Ideally, higher education online learning environments would prompt equity by being inclusive and culturally sustaining spaces (Grier-Reed, 2018). However, equity and inclusivity issues pertain to not just culture but also ability. Diverse learners are distinct from each other—and some are potentially marginalized—not just in terms of cultural background but also because of physical or intellectual disabilities. Instructional designers should address both culture and ability to ensure learning environments are inclusive (Immenga, 2021; Westine et al., 2019). Past research has shown how various models can work together, such as combining Universal Instructional Design (UID), constructivism, and CSP (Grier-Reed et al., 2018).

The CSID model may pair well with accessibility models—such as Universal Design for Learning (UDL) principles—to help reinforce and strengthen both approaches. In the same way that CSID foregrounds culture, UDL emphasizes ability. Elevating one likely aids the other. For example, UDL suggests creating multiple opportunities for learning in several modalities of content and assessment as well as multiple means of action and expression. Similar to UDL's direction for multiple means of action and expression, the CSID model prompts designers to think about how students demonstrate what they have learned (i.e., How we demonstrate what we have learned / How we assess learning) when assessing assignments in multiple modalities.

In addition to these similarities with UDL, the CSID model also specifically guides instructional designers and instructors to reflect on unexamined assumptions and biases that they hold that may shape their assessment of students, in

contrast to UDL, which focuses on means of engagement by sustaining interest and effort. For example, the CSID model's demonstration principle suggests that designers and instructors reflect on—and potentially rethink—how their grading rubrics were developed and assess their own biases during the grading process. In addition, the CSID model's community principle prompts designers and instructors to consider additional perspectives that are not inherent when creating assessment measurements (e.g., rubrics).

Similarly, the CSID model focuses on how practitioners may help support students' learning processes, such as connecting students to institutional resources available to learners through and around the course. These resources may include a Student Disabilities Services office that supports students with differing abilities. This informed approach may involve co-creating community norms for interactions and cultivating a scientific attitude by encouraging openness, curiosity, humility, and skepticism (Grier-Reed & Williams-Wengerd, 2018). Applying a combination of models in this scenario—that is, UDL in combination with CSID—provides a systematic process to achieve desired results.

Conclusion

The CSID model complements approaches already taken by many trained instructional designers by offering an additional lens to build upon the knowledge and experiences of students with diverse backgrounds and experiences. CSID combines objective course design with a subjective pedagogical lens to offer a systematic process—through prompts and guiding principles—to improve inclusion and equity in learning.

The models used to design learning environments showcase the priorities of the designer; if addressing social justice issues in higher education is a central value, designers will need to make intentional choices to incorporate models that reflect their values. With this in mind, the CSID model can be used to prompt instructional designers and instructors to reflect on their own biases and how these biases may be reflected in their course design decisions. The CSID model—through its learner-centered, culturally sustaining approach to designing and developing learning environments—provides a systematic way to reconsider each angle of the student's experience when planning, designing, developing, and assessing learning. The model also encourages educators to search for and engage with institutional resources, such as diversity trainings, to help them create more equitable learning environments for diverse students. The numerous applications of CSID—from supporting historically underserved students in higher education (Denaro et al., 2022) to complementing UDL approaches (Immenga, 2021) to serve students with differing abilities—may appeal to a wide variety of stakeholders, including instructional designers, instructors, and academic support services.

Ultimately, the CSID model can be implemented to see more just outcomes by providing both objective and subjective guidance to help ensure that all students have the opportunity to succeed, regardless of their background. Because past research has shown that graduation rates may be positively impacted for underrepresented and minoritized students if online learning environments are intentionally designed for their inclusion (Bhagat et al., 2018; Green & Wright, 2017; Woodley et al., 2017), applying the CSID model would benefit higher education institutions that are strategically attempting to retain and graduate historically underserved students. That is, the CSID model provides a systematic approach to address the success gap of diverse students in higher education through more inclusive online learning design (Higbee et al., 2012; Kumi-Yeboah, 2018). Instructional designers play a key role in shaping and improving the experiences of diverse learners and achieving these outcomes; the CSID model may make this important work a little bit easier.

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