A Framework to Scaffold Project Visioning for Inclusion

By Michael C Ralph & E'leva Hughes Gibson

Universal Design for Learning (UDL) represents a multi-decade effort by educational designers to create more flexible and inclusive experiences for students. Multistudio designers and architects have used the UDL-based *Deck of Spaces* to facilitate engagement that identifies essential priorities with direct connections to space design on projects like the Mission Bay School in California. The Multistudio team, in collaboration with researchers and educators across the UDL network, developed the *UDL Deck of Spaces* to facilitate conversations with project stakeholders about how to create more inclusive school environments. Successes like Mission Bay School led us to ask how the *Deck of Spaces* could better facilitate a more robust consideration of inclusion while using UDL as a framework. While UDL was founded on the value of inclusive classrooms for students with disabilities, we worked to give the second edition of the *Deck of Spaces* a more comprehensive consideration of diversity, equity, inclusion, and belonging (DEIB) across many dimensions of human identity – including race, ethnicity and more as we revised the *Deck of Spaces*.

Figure 1 *Rendering of Mission Bay School (courtesy Multistudio)*

UDL was originally developed as an extension of work on universal design in architecture. The first UDL framework applied the universal design philosophy to things like school curriculum and teaching practice. The Center for Applied Technology, now

known as CAST, was founded in 1984 to develop and promote UDL for schools seeking to do more around accessibility[1]. Federal law now requires that states implement universal design principles during their assessments as part of the Individuals with Disabilities Education Act (IDEA) passed in 2004. Many schools choose to do more by implementing UDL to make the entire school experience more inclusive for more students. We developed the UDL *Deck of Spaces* as a tool to provide discussion prompts and evocative imagery to spark the imagination and creativity of faculty as they envision new education spaces that embrace UDL-aligned teaching and learning methods. The cards are intended as conversation starters and explicitly prompt thinking around flexibility and learner empowerment.

Fundamentally, UDL rejects the notion of an "average" student. Instead, it places the idea of variability as a central feature of the human experience. Instead of creating lessons, structures, or spaces for a student "in the middle" of some distribution of ability, UDL asks designers to integrate flexibility as a core component of design. The approach is supported by findings in neuroscience[2,3] showing differences in how brains process information in various forms. These results and more justify teaching that supports student autonomy and instructional flexibility.

Mission Bay School: A School Designed with UDL

In 2019, San Francisco Unified School District (SFUSD) engaged Multistudio to design a new elementary school to serve a population of 550 pre-K through 5th students from across the San Francisco Unified School District. Mission Bay School is currently scheduled to open in 2025[4], and the project includes a STEM Linked Learning Hub for SFUSD high school students and a district-wide professional learning component[5]. The wide range of programming is complemented by the school's location within the city allowing it to serve a diverse community of learners in the San Francisco community (see Figure 1). Mission Bay is located on the east side of San Francisco near parts of the

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[1] History of UDL. ESC of Central Ohio. https://www.ocali.org/project/learn_about_udl/page/udl_history

[2] Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. Alexandria, VA: Association for Supervision and Curriculum Development (ASCD).

[3] Rose, D. H., Meyer, A., & Hitchcock, C. (2005). *The universally designed classroom: Accessible curriculum and digital technologies*. Cambridge, MA: Harvard Education Press.

[4] Wynkoop, O. (2022, Oct 27). New Elementary School in Mission Bay Neighborhood Prepares for Construction. Bay City News Foundation, SFGATE. https://www.sfgate.com/news/bayarea/article/New-Elementary-School-In-Mission-Bay-Neighborhood-17540289.php

[5] Bay City News. (2022, June 19). San Francisco Board of Education Approves New Mission Bay School. *NBC Bay Area*. https://www.nbcbayarea.com/news/local/san-francisco/san-francisco-board-of-education-approves-new-mission-bay-school/2923611/

city with more Black and Latinx residents. Mission Bay will also enroll Asian students, who make up 33% of the district's student population. SFUSD works with learners who speak 62 different languages, 53% of learners are identified as socioeconomically disadvantaged, and 27% of students are emergent multilingual learners. The needs of educators in SFUSD are similarly diverse, with over 3,500 classroom teachers and even more who work in classroom related positions like substitute teachers, paraprofessionals, and other support roles. All of this variability makes Mission Bay School an outstanding candidate to become a model for how Universal Design for Learning (UDL) in space design could help create a school to meet the needs of "each and every" learner, from pre-K to teachers themselves.

Figure 2 Position of Mission Bay School service area (at right) and community demographics (at left) [6, 7]

Applying UDL to space design for the Mission Bay School requires connecting the considerations for learning back to its implications for space that can support that learning. The design team used the UDL framework to anticipate the needs of instructors who are seeking to empower students as autonomous, self-regulated learners. Some components of UDL have immediately apparent space implications. For example, UDL's emphasis on collaborative structure lends itself to active learning designs, and environmental accessibility leads to the integration of assistive

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[6] Census measures from US Census American Community Survey (ACS), 2020

[7] Maps representing RI based on Anthopolos, R., James, S. A., Gelfand, A. E., & Miranda, M. L. (2011). A spatial measure of neighborhood level racial isolation applied to low birthweight, preterm birth, and birthweight in North Carolina. *Spatial and spatio-temporal epidemiology*, 2(4), 235-246. https://doi.org/10.1016/j.sste.2011.06.002

technologies like sound amplification and visual supports. However, other elements in the UDL framework are more subtle or contextually dependent and may have different applications in different projects. Great design requires engagement with those who will use the designed spaces.

Multistudio designers began working with SFUSD stakeholders using the *UDL Deck of Spaces*. Workshops with district leadership helped designers identify the importance of environments that would offer student agency and a variety of zones for different learning activities. These flexible design elements would allow teachers to use the spaces differently as their implementation of the UDL framework deepened over time. They also articulated their desire for a "heart" in the school, a shared common space central to the facility that could foster a sense of belonging for students and families in the school community. This heart will provide a center where students can showcase their learning and welcome the community into the school for a variety of functions, both large and small.

Figure 3 Mission Bay School landscape site plan (courtesy Multistudio)

The Mission Bay School will also need to support faculty development for educators in the district. District personnel used the *Deck of Spaces* to share their need for live professional development spaces embedded within the teaching and learning

happening on a daily basis. SFUSD states they have a "bias to action," and strive to implement models of professional learning that ensure research-based experimentation and shifts in practice. Designers were then able to connect this need to different experimental learning spaces throughout the school, as well as collaborative faculty "scrum spaces" where teachers can be creative together in pursuit of their own professional learning. These approaches are related to the idea of making every space, including circulation and common gathering spaces, a learning space. They will also connect users to broader systems, including outdoor spaces, within and beyond the school.

Figure 4 *Photography from Mission Bay School engagement events including the Deck of Spaces*

Throughout these project engagement events, the design team found opportunities to listen and learn from the client. Early design conversations revealed a need for the team to slow down and re-examine how they represented the project in renderings and visualizations. While everyone involved in the project wanted it to be a success for every student, the team found the need to talk honestly about how the design process could represent and include students from historically marginalized groups. One example was pausing to discuss how project renderings were representing students in the space to ensure the community saw themselves in the images. A phrase that has come to describe the process well is "progress happens at the speed of trust," and building that trust required the commitment from the project team to spend time having these important conversations.

Universal Design for Learning Facilitates Considerations of Equity

Our team's positive experiences using the *Deck of Spaces* to facilitate considerations of DEIB in facility projects, as it did with Mission Bay School, prompted us to think about creating a new edition of the Deck to bring those ideas to the forefront of the Deck's content. Researchers in UDL have examined how well the framework supports efforts by schools to address considerations of equity beyond disability by asking questions like, "how can UDL help schools pursue racial or gender equity?" Researchers are finding that UDL already offers a useful structure to pursue these kinds of DEIB goals[8], but they are also finding areas where the framework needs to be further refined with explicit references to these kinds of opportunities[9].

One challenge in working with professionals whose expertise is not in space design is connecting their experience and vision to architectural design opportunities. It is not uncommon for instructors to have limited experience with different approaches to space design; in fact, many faculty members may have only seen a small handful of similar, conventionally designed spaces over the duration of their careers. The *Deck of Spaces* is a useful tool for helping those with a limited understanding of architectural design engage with the design process. However, the first editions of the Deck were not always explicit about how UDL in space design can help schools speak explicitly about issues of diversity, equity, inclusion, and belonging.

Our team decided to create a new edition of the K-12 *Deck of Spaces* that better put DEIB in the foreground of its content. When our team began the revision process for the *Deck of Spaces*, we decided it would be useful to look explicitly at recent research and scholarship in DEIB areas we thought would be important for schools. It was never in the cards (pun intended) to create any kind of exhaustive list documenting every dimension of exclusion, but too often, conversations around DEIB get stuck in the vagaries of abstraction that make it difficult to talk about specific marginalizing experiences in schools. So instead, we strove to name key issues we wanted to consider while revising the cards.

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[8] James, K. (2018). Universal Design for Learning (UDL) as a structure for culturally responsive practice. *Northwest Journal of Teacher Education*, *13*(1), 4. **https://doi.org/10.15760/nwjte.2018.13.1.4**

[9] Kieran, L., & Anderson, C. (2019). Connecting universal design for learning with culturally responsive teaching. *Education and Urban Society*, *51*(9), 1202-1216. **https://doi.org/10.1177/00131245187850**

UDL has a foundation in research and scholarship in special education[10,11]. While inclusion of students with disabilities has been a priority of UDL since its inception, we sought to re-examine its applicability within the context of more critical examinations of dis/ability[12]. Here we repeat the term "dis/ability" with the slash to draw attention to the sociocultural nature of dis/ability as a construct[13]. Throughout the revision process for the *Deck of Spaces* we sought to reconsider the ways definitions of disability are given additional meaning and significance in normative education paradigms.

This kind of consideration of dis/ability was particularly important as we revisited ideas of how spaces situated notions of accessibility during the revision process for the second edition of the *Deck of Spaces*. Often in space design, "accessibility" refers to compliance with legal or code minimums. However, these definitions reinforce a normative focus (the belief there are "normal" users and "other" users). On cards prompting thinking with an expanded definition of accessibility beyond legal minimums, we disrupted a normative center. For example, a card suggesting "Engage with any surface" presents the idea of variety without any normative anchor or reference (ex: 'desks and other places'). We did not include the dis/ability term in the final *Deck of Spaces* to maintain accessibility for users unfamiliar with the convention, but we did strive to keep the lens of thinking critically about the nature of disability.

During this revision, we also sought to place a more explicit emphasis on racial and ethnic justice. While marginalization takes many forms, we considered the argument of scholars like john a. powell for *targeted universalism*[14,15]. Our application of targeted universalism led us to choose concrete foci in our reinterpretation of the cards that helped us avoid the pitfalls of vague, abstract goals while also devoting attention to broader goals of inclusion for all people. In this approach, we purposefully set a goal to interrupt anti-Black racism. We also worked to advocate for decolonial approaches to

[10] Crevecoeur, Y. C., Sorenson, S. E., Mayorga, V., & Gonzalez, A. P. (2014). Universal Design for Learning in K-12 Educational Settings: A Review of Group Comparison and Single-Subject Intervention Studies. *Journal of Special Education Apprenticeship*, *3*(2), n2. https://scholarworks.lib.csusb.edu/josea/vol3/iss2/1

[11] Fornauf, B. S., & Erickson, J. D. (2020). Toward an inclusive pedagogy through universal design for learning in higher education: A review of the literature. *Journal of Postsecondary Education and Disability*, *33*(2), 183-199. https://eric.ed.gov/?id=EJ1273677

[12] Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review*, *86*(3), 366-389. https://doi.org/10.17763/1943-5045-86.3.366

[13] Davis, L. J. (1995). *Enforcing normalcy: Disability, deafness, and the body*. London: Verso.

[14] powell, j. a. (2008). Post-racialism or targeted universalism. Denv. UL Rev., 86, 785.

[15] Farmer, T. W., Serpell, Z., Scott, L. A., DeVlieger, S. E., Brooks, D. S., & Hamm, J. V. (2022). The developmental dynamics of emotional and behavioral difficulties of youth of color: Systemic oppression, correlated constraints, and the need for targeted universalism. Journal of Emotional and Behavioral Disorders, 10634266211068892. https://doi.org/10.1177/1063426621106889

education that support Indigenous ways of knowing and being for students. The construction of the *Deck of Spaces* is useful for a wide variety of considerations but setting these goals for ourselves as revising authors helped us think about specific applications of the Deck in project engagement settings. In these specific applications, we can combine the scaffolding of the Deck with the community context to facilitate similarly specific conversations around creating more equitable and inclusive school spaces for clients.

Pursuit of Equitable Design Through Persistent Practice

The 2nd edition of the *Deck of Spaces* represents an application of our learning in working with schools on projects like Mission Bay School. However, the pursuit of equitable design, through UDL and more generally, is an on-going process. The Deck, and tools like it, are simply that: tools. They are not a substitute for the work required to build relationships with the communities we serve. They cannot replace active listening and personal reflection. Each of us will make mistakes, and we must commit to learning from our missteps. The Deck can help design teams and school communities by facilitating better conversations around space design and contributing to the creation of a relationship built on trust. We created the *Deck of Spaces* to be flexible, and there are many ways project teams can use it to facilitate conversations successfully. What is important in facilitating these conversations related to DEIB is that project teams are prepared to listen. We must truly hear the input from community members who choose to share their perspectives and be committed to responding to their input both throughout the process and in the designs we deliver.

Design teams also need to look closely at who has access to the engagement process. For which voices are we making space, and whose voice are we excluding? These kinds of questions also demand that we look at who is asking the question – who are we in this process? For example, I (MCR) am a white man who does not currently have a disability, and I can only find success in promoting equitable and inclusive spaces when I consider how my own position in the conversation influences what I see, what I think, and how I am impacting others in the conversation.
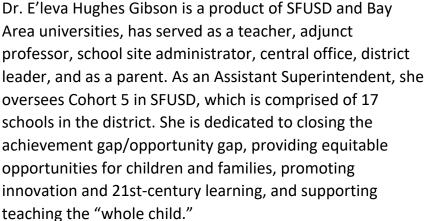
We are excited to see Mission Bay School begin service in the near future and contribute to great educational experiences for students in the San Francisco Bay area. We hope the project can be a model for future schools – both in new construction and renovations for existing facilities – for how the design process can support DEIB goals in schools across the district and nationwide. We can feel pride in our success while

continuing to create a culture of reflection and improvement, build community with the people who will work and learn in the spaces we are designing, and refine our processes as we have done with the *UDL Deck of Spaces Ed 2*.

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