



Reach Everyone, Teach Everyone

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CHAPTER 5

Adopt the Plus-One Approach

How Not to Do UDL

In 2016, Tom Tobin visited a university to facilitate a faculty development workshop. As he was arranging his materials, distributing handouts, and organizing his workspace, a faculty member came into the room, introduced herself, and said, “I made *all* of my lectures accessible last semester for my 300-level history course. I recorded all three lectures a week for the entire semester, and I made sure that students with hearing challenges could still experience them.”

Tom smiled politely and asked, “Oh, you did? So how did that work out for you?” He suspected what was coming next but let the faculty member share her story. She said, “I’m exhausted. My teaching assistant is exhausted. After each recording, we spent about six hours per lecture finishing the editing, creating captions, creating text transcripts, and uploading the files. It took so much time. And I’m not sure it was worth it, even though the law says I have to do this.”

Of course they were exhausted. A three-credit course meets for approximately an hour three times a week over the course of a typical semester. That’s a minimum of forty-five hours of video-recorded lectures. Add another six hours to each of those one-hour video segments and the whole idea of creating an accessible version of the course seems impossible, especially on top of all of the other responsibilities that faculty members and students have.

Tom was curious: “Wow, that’s a lot of time spent in the recording studio. What kind of feedback did you get from your students?” The faculty member said, “That’s the thing. I’m not so sure my students even watched the videos. Very few came to class prepared. Eventually,

I figured that the videos were there if students wanted to rewatch a lecture or if they missed class. I guess I don't see the point of creating all of these alternative video and text versions of the interactions in my course. It took too much time, and it didn't seem to matter to the students anyway. At least I can say I tried it, but it's probably not something I would do again."

Too Much Work!

The professor in Tom's story above was following one of the tenets of Universal Design for Learning: giving learners multiple ways to get information. As you read in chapter 1, the core elements of UDL, as defined by the neuroscientists at the Center for Applied Special Technology (CAST), stimulate three brain networks that help us to learn and retain what we learn:

- **Affective networks.** Engagement: for purposeful, motivated learners, stimulate interest and motivation for learning.
- **Recognition networks.** Representation: for resourceful, knowledgeable learners, present information and content in different ways.
- **Strategic networks.** Action and expression: for strategic, goal-directed learners, differentiate the ways that students can express what they know. (CAST, 2018)

When implemented as part of an overall plan for designing the interactions that learners have with course materials, with one another, with the instructor, and with the wider world, this three-pronged approach does indeed offer learners engaging, choice-filled learning.

Too often, though, faculty members and instructional designers approach UDL from an accessibility mind-set. The professor with whom Tom spoke was not looking to identify the best places to adopt accessible design in her course (as you will read about in chapter 6); rather, she focused on the one part of UDL that most people have heard about: creating text-based alternative versions of multimedia resources. Instead of choosing which parts of her course materials would best serve learners if they had alternative versions, the professor

rigidly created both captions and text-transcript files for every lecture video she had created, citing “it’s the law” as the reason she had undertaken the work. And the process of doing so left her exhausted.

In many of our conversations with faculty members, administrators, and support staff across North America, this sort of approach is all too common. People focus on a narrow part of the inclusive-design process, usually having to do with videos and captions, and they spend considerable time and effort fulfilling what they think is a legal mandate to cover every possible access method for the content in the materials (think back to chapter 2 and the it’s-the-law mind-set). There are two problems with such an approach. First, it creates extra and often unnecessary labor for everyone involved. Second, it relies on a mistaken notion of why the work is needed in the first place. This is why we want to put forward UDL as simply a means of plus-one thinking about the interactions we have with our learners.

Why Don’t All of Us Get UDL?

If you take away nothing else from reading this book, remember this: UDL is a way of thinking about creating the interactions that we have with our learners so that they do not have to ask for special treatment, regardless of the types of barriers they may face—time, connectivity, or disability. If you forget which brain networks go with which strategies, or you need to refer back to the reference sheet of menu options for UDL, go ahead and refresh your memory using the resources in this book and the ones to which we point you. One of the key things that the authors recognized as we did research for this book is that no two institutions of higher education are the same. The process by which your faculty, designers, leadership team, and campus as a whole consider UDL will differ. So please refer back and interpret those strategies with your own situation in mind. One of the reasons we want to simplify UDL is that most of us in higher education are already pretty busy, mentally speaking.

Susan Yager identifies three constraints on faculty members’ awareness; they also apply equally to everyone involved in the design and delivery of instructional interactions for colleges and universities.

We argue that these three constraints go a long way toward explaining why so few faculty members, department chairs, and deans have adopted UDL practices across the board, despite their proven effectiveness.

The first of Yager's constraints is time. "Textbooks and supplies are sometimes obtained just before term begins; films and videos may be ordered without being previewed; or older media and technology that are already on campus may be pressed into service" (Yager, 2015, 308). Of course, UDL is a good idea in the abstract, but few instructors have the time and energy to reflect on, design, and implement multiform interactions with their learners. Further, when some faculty members or designers do take the initiative, as in the example that led off this chapter, they do so in a narrow way that requires significant work—and that only sometimes leads to better student engagement or performance.

The second constraint on awareness is the level of exposure that people have had to the concepts in UDL. "Almost by definition, successful academics thrived, as students, under traditional teaching methods. Thus, . . . faculty members will likely use teaching methods that worked well for them, although these methods may not work as well for a variety of students" (Yager, 2015, 309).

One of the barriers that new faculty members and course designers face is that they themselves were almost always "A" students, and they enter their teaching and support careers being asked to reach students across the ability and motivation spectrum. Add to this a disconnect between the study habits of low- and high-achieving learners, where low-achieving learners tend not to have learned how to learn and require more and different types of support from instructors (Credé, 2008, 431–32).

And then we throw in technology. The knowledge of technology and the range of different types of technology that both faculty and students own and use add more factors in thinking about how to increase access to courses for all. Few faculty members or support staffers have studied UDL in any depth, so they are susceptible to a more rigid application of a few concepts, as we saw with the faculty member in this chapter's opening example whose time and resources

went into the creation of captions and transcripts for hours and hours of videos.

The third constraint on awareness is the structure of academe itself: “faculty often know little about student affairs or other offices that support students. . . . Who would seek out the office of disability resources if it is not necessary?” (Yager, 2015, 309). This is an especially challenging constraint, but it helps to explain how a professor like the one above could get so focused on making alternatives for all of her video content; it’s a safe bet that she never talked with her disability support office people before embarking on what she thought was a legal requirement.

So, if UDL is not a set of legal requirements, and if it is actually a way that we can offer our learners more time for study and interaction when they are on their mobile devices, as you saw in chapter 3, how should we approach UDL so that it becomes a manageable way of creating interactions for our learners? How can we avoid doing lots of work and having almost no one benefit from that work? Start applying some plus-one thinking.

A Different UDL Story

Both Kirsten and Tom have worked with colleagues who end up re-teaching certain concepts every time they teach certain courses; you can probably call to mind the one topic that everyone struggles with in your own teaching or design work. Picture a colleague who is a composite of many professors with whom we have worked. He teaches an introductory-level psychology course and notices that his students struggle with the same topic every time the course runs. The professor can’t figure out what the problem is but is committed to supporting his students. He decides to experiment and provides his students with his PowerPoint slides before each class session; he also records his class lectures and posts the captioned videos as a study tool.

In order to gauge the effectiveness of these strategies, our colleague used his LMS reporting tools to track when and how often students accessed course materials. He found that students downloaded the PowerPoint slides and viewed the lecture videos more frequently in

the days leading up to the midterm exam. In line with our conversations with other colleagues, our psychology colleague notes a number of students who used both the PowerPoint slides and the lecture content. Overall, student performance on his exams increased, whether learners chose one, the other, or both study aids. He asked some of his students why they chose the resources that they did.

Students studying in the library on their laptops said that they plugged in their headphones and listened to the video guides, taking notes on paper. Students with long commutes downloaded the audio and listened as they drove to and from home, school, and work. Students in the residence halls often printed the PowerPoint files and held small-group study sessions with classmates. It was so varied that the professor had a hard time finding a most-common study scenario at all.

UDL can seem like a lot of planning and work, especially when retrofitting existing course materials and interactions. It seems like it is almost easier to design from the ground up, creating brand-new materials and interactions that are not tied to how we used to work. What marks the difference between the UDL experiences of the history professor in this chapter's opening narrative and our composite psychology professor's experience?

First, our psychology colleague created his alternative formats to serve a specific (and measurable) purpose: helping learners to study for the midterm and final examinations. This is one of the keys to successful UDL implementation. UDL "is fundamentally about problem solving, [and] instructional design is about the efficacy of learning. Central to all of its constructs is evidence of intentionality and how problems can be solved through innovative design" (Edyburn, 2010, 37). The history professor, on the other hand, created captions and transcripts out of a sense of fulfilling a perceived requirement.

Second, and more crucially for the adoption of UDL, the psychology professor was not trying to respond to only a small slice of his learner population. The reason for creating the slide decks and video segments was to help everyone, regardless of how they chose to study. Contrarily, the history professor created alternatives for her videos to ensure that students with hearing challenges could still experience

the content in her videos. Each professor perceived the alternatives differently, with the psychology professor talking about the benefit to the whole class and the history professor telling learners that those among them with disabilities could now use the captions and transcripts.

Reframing UDL: Plus-One

As a takeaway from this chapter, we want to show you how to think about UDL differently. Instead of adopting the mind-set that we must reactively address every access need, we can design our interactions so that the greatest number of people can take part in them without having to ask for specific accommodations. Fortunately for us, UDL doesn't require five different methods for each element in a course. Rather, it is an iterative process, where you and your colleagues create progressively more course content and interactions to be increasingly more accessible as you teach the course repeatedly. Instead of focusing on the three brain networks, think of UDL as merely plus-one thinking about the interactions in your course. Is there just one more way that you can help keep learners on task, just one more way that you could give them information, just one more way that they could demonstrate their skills?

This unlocks the plus-one mind-set. Having taught your existing courses repeatedly offers you one big advantage when it comes to adopting UDL methods: historical data. Think back and identify the places where your existing students bog down.

- Where do they always have questions?
- Where do they always get things wrong on tests or assignments?
- Where do they always ask for explanations in a different way from the one you provide?

Select these existing pinch points and adopt the plus-one approach at each point. Instead of providing all of the ways learners could get access to those materials, give just one more way to engage than exists now.

To add a plus-one approach to your day-to-day interactions within your class, think of the times where every class asks the same questions at the same point in the course. If you already have a text-based set of lecture notes, follow our psychology professor's example and record an audio podcast of the main content. For an existing video, provide captions or a transcript. Note that providing both captions and transcripts, while useful, might be overkill, especially as you start your UDL efforts.

To know whether to do captions or a transcript, think of whether viewers need to have the audio information at specific points of the video information. In a chemistry lab demonstration, viewers would definitely need to know when to add the chemical reagents and what the safety equipment looks like: since the audio and video content are linked, create captions. In a video interview with a colleague about the various types of banking models, the video content may not be tied logically to the audio, and so a transcript will suffice.

You can use plus-one thinking in assessments as well. For example, in addition to crafting a three-page written essay, you might also allow learners to record a video report, either for the final product of the assignment or as draft content (more on this distinction in the next chapter). Note that there is no requirement to allow students to create whatever they like and turn it in; just allowing them to have a choice about how they demonstrate the skill is enough to increase their sense of motivation in the course (Tobin, 2014, 20).

To keep learners engaged, your plus-one method might be providing breaks between parts of the course where they take in information and allowing learners to think, digest, and do. Schedule way-to-go or temperature-check messages to make sure communication keeps happening, not only about the content of the course but also about learners' progress and sense of accomplishment. It is likely that you are already interacting with your learners to keep them engaged, so offer them choices about how they stay engaged—they could watch your video recap of the unit's main ideas or read the e-mail message with the same content.

One caveat: some concepts and subject material are dependent on their format for understanding and application. For example, graphing

the mean in a mathematical set allows researchers to display relationships among disparate data points in a way that allows for visual interpretation in various ways; changing the display conventions for such data actually changes how the data sets can be interpreted (cf. Schneider, 2014). No amount of text-based tables can replicate the procedure of visual inspection for such graphed data. In such cases, where the format is the message itself, we are under no requirement to try to create alternatives for everyone; indeed, even accommodations for individual learners may be challenging. However, don't be lulled into thinking that every problematic situation is impossible either; there are often creative and useful ways to apply plus-one thinking to the places in your courses where students need alternatives the most. In other words, format requirements can outweigh UDL practices, but only if the format is a part of the assignment that is *assessed*.

Concrete Benefits

By adopting this plus-one mind-set, UDL becomes a process of identifying the areas of greatest learner need, based on your previous experiences, and addressing those needs in order to keep students motivated, on task, and learning. Plus-one also works for new courses. When you develop new courses, consider areas, topics, and processes where you think students might get hung up. Offer one alternative method of presenting that information, engaging learners, or increasing their choices on assessments. Pay attention to these plus-one elements as you teach the course. Then, before you teach the course again, identify what worked and got used by your learners, tweak what didn't work out well, and begin identifying other pinch points as places to add new plus-one strategies too.

There are a few concrete benefits to taking the plus-one UDL approach. Learners are more likely to persist in your course: more of the students who begin the course take the final examination (Tobin, 2014, 21). More students are likely to be retained: more learners who finish one year of study will be back to begin the next (Ofiesh, Rojas, and Ward, 2006). Learners with options, choices, and a sense of control over their studies tend to rate their professor more highly in terms

of satisfaction with the course, teaching methods, and instructor skill (Burgstahler, 2015b).

The real beauty of the plus-one UDL approach? Designers and professors don't have to throw all of their energy into cramming a few weeks' worth of effort into creating a perfectly UDL-ified course. In order to get started with UDL and then stay on a path of continuous improvement, "good enough" is good enough at the outset, and we can use our existing knowledge of our courses to pinpoint our efforts on the places where the application of a little UDL goes a long way toward providing access, motivation, and choices for our learners.

An important set of caveats is in order here as well. UDL is not simply another term for good teaching, and it "does not occur naturally" (Edyburn, 2010, 38). By simplifying our approach, we risk merely preserving the status quo of doing what we have always done when, in fact, a UDL approach is about purposely thinking differently about the interactions we create for our courses. UDL is a "learned skill, one that is refined over time, to produce high levels of performance" (Edyburn, 2010, 38).

Also, the law in the United States and in many Canadian provinces requires at least some methods in every instance, such as captioning or transcripts for instructor- or institution-created video content that is accessible on public web pages. There's also a plus-one way to approach those legal requirements. For example, when Harvard University was sued by the National Association of the Deaf in 2015 for not captioning its edX course videos (Lewin, 2015), the settlement outlined two things: (1) Harvard had to comply with the law and caption all of its video content, and (2) any content created after the settlement date must be captioned, and Harvard had to come up with a plan to caption the rest of its content within a reasonable time frame. That's plus-one thinking: otherwise, the resource drain in terms of people, time, and funds would have been crippling.

The Harvard case shows us two things that we can adopt (without having to be sued first): draw a line in the sand about doing what's legally necessary as of a certain date so you don't have to worry about your legal obligations going forward. Then adopt the plus-one approach to go back and create multiple access means for existing

content, based on a needs list (e.g., for the most-enrolled courses first, or for the courses offered to the broadest spectrum of learners).

While the law is a good soapbox for faculty, designers, and disability providers to adopt accessibility, UDL goes beyond the law. Our legal requirements have a lot to do with multiple means of representing information, and not a lot to do with multiple means of demonstrating learners' skills and multiple means of learner engagement. Those other two parts of UDL often get short shrift when we think solely in terms of legal requirements, yet they are the parts of the equation that have the greatest impact on learner persistence, retention, satisfaction, and learning.

Conclusion

Remember the story at the beginning of this chapter, where Tom Tobin encountered a harried faculty colleague who had spent hours captioning and making transcripts for all of her lecture-capture videos? Kirsten Behling had what we might call the opposite experience. In her faculty-developer role, Kirsten worked one semester with a biology professor who had a student with low vision in his class. The student had the accommodation of a note-taker who was recruited from among students who had already taken and passed the course. The note-taker came to class sessions and lab periods along with the student with low vision, and they collaborated on what went into the notes. The professor redesigned his lab to be a bit friendlier to the student with low vision and to the note-taker: he explained the processes that he demonstrated using more descriptive language; he asked participants to explain their own work out loud; he asked various groups of students to work on different steps in a process and then hand off to the next group.

Some of the students in the class asked if they could also have access to the notes that the hired student had taken, either to compare against their own, as a study aid, or as a replacement for their own note-taking all together. By working closely with a student who needed a specific accommodation, the professor made changes where the benefits extended to all of his students.

As a postscript to this story, the role of note-taker is a good one to pass around a class of students; doing so allows learners to focus more on in-the-moment application and thinking, while still providing recall-and-practice study opportunities (Ahern, 2010, 111). Faculty members at the University of Colorado Boulder, Harvard University, and North Carolina Agricultural and Technical State University all upload student-generated notes, taken using the Cornell method, that are shared with the whole class (Maier, 2016). The added bonus of this method is that the uploaded notes can be mobile, which increases access even further for students.

That is what UDL is all about: proactively providing greater access and choices for every student. Whether the impetus is an accommodation, as in this instance, or a design process that tries to minimize accommodations in the first place, as with the psychology professor whom we met earlier in this chapter, the plus-one approach to UDL allows us to reach out to learners to help them be more successful.

In the next chapter, we will look at how UDL doesn't even have to be a lot of work all at once. We can apply UDL principles that require only modest effort on our part but that save us from having to answer the same questions again and again, provide students with better ways to find time for studying, and give professors a way to get back to the Socratic-dialogue ideal of what college- and graduate-level courses are meant to be in the first place.



A THOUGHT EXERCISE

This thought exercise is designed to help you take stock of a course you have taught or are considering teaching, or an interaction in which you support learners. Take a minute and, thinking about one of your own courses or student interactions, note your responses to the following questions in the worksheet below.



- What elements in your course or interaction rely on single-stream materials (i.e., content provided in only one format)?
- What assessments in your course or interaction require learners to demonstrate their skill in only one format?
- What are the points in your course or interaction where students always have difficulty with the same concepts or ideas, every time you teach the course or have the interaction?

Your responses will serve as a baseline for where to begin UDL implementation, as well as for thought exercises in later chapters, so keep them handy.

Course/Interaction: _____

	Pinch Point	Plus-One Strategy to Address Pinch Point	Needed Resources (Tools, Knowledge, Funds, Time)
Single-stream materials			
Means of interacting with learners (e.g., lecture, group discussion, hands-on)			
Assessments that require learners to demonstrate their skill in only one format			
Technologies you plan to use			