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Chapter 2

Studio-based Learning Pedagogy and Practices

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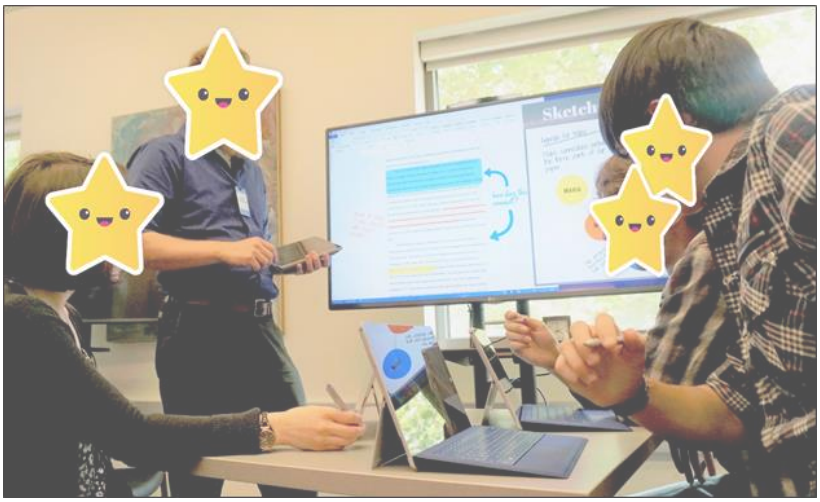

About the Author

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Abstract

Despite the pedagogical relevance of studio-based learning (SBL) to practitioners in academic support programs, few scholars in our home disciplines have apprehended this pedagogy. Those few who have investigated it often oversimply it, stripping SBL of its potency for increasing equity-based learning. In libraries, the concept is entirely absent despite relevance to learning commons initiatives. In writing studies, *studio* is most linked with revitalizing and democratizing the composition classroom, and in writing centers, *studio* is most linked writing in digital genres. But in disciplines as diverse as computer science and dance, SBL is richly understood as essential for incrementally scaffolding procedural knowledge and for forwarding egalitarian teaching and learning. In this chapter, I summarize the gaps in our home disciplines' impoverished understandings and explain SBL philosophy and pedagogical practices across history and across disciplines. Finally, I propose principles for using this signature pedagogy to advance learning *about*, learning *how*, and learning *to become*. To illustrate the principles in operation, I intersperse composite reflections of my own Studio shifts, and I include several appendices that illuminate the Hacherl Research & Writing Studio's micro-consulting practices and outcomes.

Keywords: Studio-based learning pedagogy, signature pedagogies, self-regulated learning, agency, scaffolding

After nearly 30 years with the Writing Center, I thought I would get misty-eyed about exchanging my writing center identity for a studio one. Now nearly six years since the Libraries' Research Consultation and the Writing Center merged into the Hacherl Research & Writing Studio, I do not pine for the past; instead, I more often remember pain points. Before our merger, librarians served students from behind a monolithic Reference Desk where a disheartening majority of visitors timidly approached to ask: "Where is the printer?" When students did ask for research help, few consultations featured scaffolding new conceptual or procedural knowledge. Across a skybridge in the Writing Center, consultants regularly fielded more complicated concerns, but in efforts to be suitably orthodox, tutors posed open-ended questions[1], read drafts aloud, and offered comprehensive reader response in dialogues that were remarkably cookie cutter (Chandler & Sutton, 2018). Many writers came in befuddled about how to enact revising based on faculty feedback, but I knew from my own research that neither faculty nor writing center response prompted much revising (Buck, 1994). In fact, the more I analyzed writing center transcripts[2], the less evidence I saw that we were prompting sticky, life-changing learning. For example, in a disturbing transcript of one 50-minute session, the writer asked at the 30-minute mark, "What is it you actually do here?" Gut check: what *do* we do here? Motivated by dissonant moments like this, I started looking for other pedagogies to yield transformative learning that students could use for their current task and take with them into the next academic task—even into their lives

[1] Writing center and library practitioners ask remarkably similar questions. See the State Library of Iowa (n.d.) for just one example of a standard "reference interview."

[2] I have analyzed hundreds of transcripts, both from our quarterly tutor assessments and from two major IRB-approved studies featuring transcript analysis (Buck, 1994; Kjesrud, 2015).

beyond college. We found part of our answer in what has become one of the Hacherl Studio's signature pedagogies: studio-based learning.

> *As I arrive for my shift, the Hacherl Research & Writing Studio is in full swing with about 40 visitors spread out across the living room, focus area, collaborative area, and* The Fishbowl *classroom. Several visitors are working with Studio Assistants in serial micro-consultations: visitors summon us when they get stuck, get a little advice, learn a new strategy, and keep working on their own. Sam and Chris have been working on the same research since my last shift four hours ago, so I check to make sure they've eaten. They haven't. When I suggest they visit the nearby coffee and bagel shop, their eyes light up—will I keep an eye on their stuff till they get back? And can I help them find another source later? Sure! Next, I spot a health education project group I consulted weekly last term; as I approach, I note they have surrounded themselves with whiteboards, which they are using for one of the group process strategies they learned last term. They assure me they are making good progress, but could I check back in a few minutes?*
>
> —Roberta's post-shift reflection, 2016

Studio-based Learning Pedagogy

What SBL *Isn't*: Space

The literature on studio-based learning in Writing Studies (WS), Library Information Studies (LIS), and Writing Center Studies (WCS) speaks liberally to studio as space and affordances but little to studio as pedagogy. Although SBL origins first surfaced in K-12 (mid 1800s) and arrived much later in tertiary education (early 1900s), composition was comparatively late in discovering it. Writing Studio Pedagogy, or what WSP scholars simply refer to as *Studio*, was first formally articulated by Grego and Thompson (2008). Two main trends fueled Studio adoption—the computer age in the

1990s and the defunding of developmental writing courses[3] in the 2000s. As in most disciplines, computers changed composition teaching, both in method and content. Once computers enabled collective composing during class sessions, practitioners recognized the value of mentored, learning-while-doing (studio) experiences for their students because the richest teaching moments emerge while students are actively engaging in the composing process. Yet despite emerging scholarship around computers supporting process-based learning, a strong Luddite streak in the humanities meant that literature-biased English departments were initially slow in equipping composition classrooms with technology and in embracing the new digital genres[4] technology enabled. After strong advocacy from forward-thinking WS scholars (Hawisher & Selfe, 1989; Selfe, 1986), most English composition programs now rely on computer-enhanced writing labs. Hence, WSP became a sub-field of composition devoted to technology-rich laboratory instruction. Outfitting classroom-turned-studios with technology quite naturally turned scholars to spatial concerns, but some also recognized Studio as a liberatory pedagogy for traditionally marginalized students who became vulnerable to further oppression once developmental courses were eliminated. Studio has recently been more deeply theorized for its potential in creating educational justice for students whose literacy identities were undervalued in traditional genres and traditional literacy standards (Chandler & Sutton, 2018; Grego & Thompson, 2008).

[3] The widespread move to defund developmental courses had disproportionate fallout for traditionally marginalized students who lost access to courses meant to foster equitable success. WS practitioners proposed Studio as an arguably better way to ensure success for vulnerable students.

[4] Note the connection between multimodal genres and the justice-informed theory of *multiliteracies* proposed by the New London Group (1996).

Despite the prominence of the term *pedagogy* in the subfield of Writing Studio Pedagogy, scholars often use space and affordances as surrogates for SBL methods and practices. In a notable for instance, both the editors and contributing authors of *Writing Studio Pedagogy: Space, Place, and Rhetoric in Collaborative Environments* (Kim & Carpenter, 2017) express confusion about what defines studio pedagogy. Instead, the volume focuses largely on configuring studio spaces, identifying necessary technologies, and proposing ways to create a studio atmosphere in retrofitted, traditional classroom and writing center spaces. While the editors briefly discuss four primary SBL principles prominent in cross-disciplinary instantiations (Hetland et al., 2013, pp. 5–6), the volume's prevailing emphasis is minimally on the *what* of studio teaching and learning (creative thinking and multiliteracies) and maximally on the *with what* of studio teaching and learning (flex furniture, large screens, group seating, etc.).

Around the same time composition met computers, so did libraries. By the mid-1990s, libraries were not just card-catalog digital; many of their holdings also became digitally available—or were born digital. Whereas ubiquitous personal devices now allow students to use the library without ever leaving their rooms, in the 1990s, students relied on campus computers. Libraries saw an opportunity to increase relevance and fill access needs by replacing expansive services desks with the information commons (IC). The typical IC was located on a main floor, featured lab-like workstations, included technology-enhanced classroom spaces, enabled collaborative student scholarship, and featured flexible *thirdspace*[5] furniture and other affordances. Designers of ICs were particularly influenced by *EDUCAUSE* and its work around theorizing and researching

[5] See Chapter 4, "Placemaking through Learner-based Design," for more on the *thirdspace* concept.

the role of space and technology in learning. While the IC movement in academic libraries prompted an almost immediate recovery from dwindling gate counts, some LIS scholars were left wondering what they should actually *do* with students attracted by space and technology. University of St. Thomas librarian and frequent *EDUCAUSE* presenter Dan Gjelten pondered:

> I see that one rationale for the Commons is to "get the students to the library." In our case, it has been very effective in attracting students…our gate count was 110 percent higher…so, it will attract students. But that begs the question—once they are in the building, what do we do with them? How do we engage them? (as cited in Lippincott, 2006, p. 7.1-7.2).

Readers should note that, despite obvious parallels, LIS scholars have never connected the commons concept with SBL, so like WS scholars, libraries became enamored of space and affordances sans pedagogy.

Although one could argue that classroom-based studio practices have limited application to writing centers, WCS scholars borrow heavily from WSP scholarship mainly due to the disciplinary affinity with writing studies. Predictably, WCS discussions of studio mirror a disproportionate attention to space/affordances and to multimodal genres. Although WCS studio scholarship introduces welcome connections between literacies and admirable support for alternate genres, WCS scholarship adds little to our home disciplines' understanding of SBL as a method. Overall, then, we see a robust trend in our home disciplines; that is, space/affordance themes dominate our considerations of SBL. LIS scholarship emphasizes some form of commons (Bailey, 2008; Crockett et al., 2002; Lippincott, 2006), WS scholarship emphasizes first-year

writing-classrooms-turned-studios (Bemer, 2010; Grego & Thompson, 2008; Gresham & Yancey, 2004; Kim & Carpenter, 2017; Powell & Tassoni, 2008), and WCS scholars emphasizes support for multimodality and multiliteracies (Carpenter et al., 2013, 2015; Carpenter & Lee, 2016; Kim & Carpenter, 2017). Although I have titled this heading *What SBL isn't*, that's not quite accurate because our home disciplines do present a partial picture of SBL. It's just that interdisciplinary presentations of SBL pedagogy do it better because they go beyond considerations of space or genre. Instead, SBL is presented as a method of teaching. As we will see, pedagogies can be hampered or enhanced by space[6], but space alone neither prevents nor guarantees SBL pedagogy. In considering space before practices, our home disciplines have it mostly backward.

What SBL *Is*: Method

To truly understand SBL as a method, we now widen our gaze across history and across disciplines. As an educational philosophy[7], SBL is rather elderly. Originating in 19th century public education, SBL philosophy in the U.S. can be traced to prominent education reformers such as Horace Mann (public education), Francis Parker (student-centered learning), and John Dewey (hands-on learning). Dewey's Chicago-based Laboratory School, for instance, featured an early version of SBL (although it wasn't called that); in short, many of today's new practices are rediscoveries of pedagogies implemented in an average K-12 classroom of yesteryear. In fact, SBL has been around so long that some claim we can learn more about this innovation by looking to history

[6] For research on how space influences learning, see Chapter 4, "Placemaking through Learner-based Design."
[7] Educators tend to conflate philosophy, theory, and pedagogy. In this volume, we use *philosophy* as the umbrella epistemology that unifies theory and pedagogy, *theory* as the explanatory underpinning for how teaching and learning works, and *pedagogy* as the set of teaching and learning methods or practices that instantiate both theory and philosophy. As examples, *Progressivism* (Dewey, 2019) is a philosophy, the *Zone of Proximal Development* (Vygotsky, 1978) is a theory, and *Problem-based Learning* (Harland, 2003) is a pedagogy.

rather than the present (Lackney, 1999; Donohue, 2012). In tertiary education, the Bauhaus design school in Germany adopted SBL because its principles resonated with design charrettes[8], a well-established practice in architecture schools to this day. Thanks to urban planner and educational philosopher Donald Schön (1984), SBL was introduced across disciplines, particularly those that are project- and problem-based. Problem-solving across disciplines acknowledges that there is no right answer to any problem, requiring practitioners to recursively a) brainstorm, collaborate, and propose solutions; b) test solutions by seeking incremental feedback; and c) return to the drawing board in revisioning solution 2.0. Oh how this resonates with writing and research! Since many disciplines feature some elements of creative problem solving in collaboration with others, it's unsurprising that SBL is employed in disciplines as varied as art (Hetland et al. 2013), computer science (Silva et al. 2017), design (Brandt et al., 2013; Cennamo & Brandt, 2012; Crowther, 2013), medicine (Swanwick, 2010), nursing (Ladouceur et al, 2004), planning (Brocato, 2009; Nemeth & Long, 2012), and architecture (Kuhn, 2001).

If pedagogy is a set of methods or practices informed by theory and philosophy, then SBL as pedagogy is perhaps most clearly articulated in two volumes by visual arts K-12 teachers Hetland, Winner, Veenema, and Sheridan (2013) who suggest four core methods[9]: 1) *demonstration* or lecture; 2) *work time*; 3) *critique*; and 4) *display*. *Demonstration* generally comes from an expert who briefly (5-10 minutes) imparts a

[8] Used in fashion, design, and architecture, *charrettes* or *design crits* gather stakeholders for critiques. In an architectural charrette, for example, architects present initial designs to users who offer critiques that help architects go back to the drawing board, ensuring final plans meet stakeholders' objectives. If you've seen *Project Runway*, you've seen a design crit.

[9] Note that Hetland et al. (2013) refer to this as a *method*, not a pedagogy. I argue pedagogy *is* method.

concept or strategy. *Work time* gives students a chance to apply that new information on the spot during leisurely practice. *Critique* involves students' workshopping their work-in-progress to gather feedback that is neither comprehensive nor summative; rather, it is formative, bite-sized and immediately implementable during the next increment of work time. Critiques may be provided by master crafters (teachers, peer tutors), but they can also be provided by fellow classmates who have mastered aspects of the craft that their colleagues have not. *Display* involves admiring the finished or closer-to-finished product. Since SBL is iterative, display may not occur until after several studio sessions, whether after a series of micro-consults in one visit or in many visits over time. While Hetland et al. (2013) helpfully provide a guiding method, they leave it to practitioners to discover their own accompanying evidence-based practices.

> *With Sam and Chris gone to the coffee shop for a few minutes, I move on to greet new arrivals, including two who are unknowingly studying for the same linguistics mid-term; with permission, I introduce them and leave them happily collaborating. Another student overheard me explaining what we do in the Studio; although he is what we call an* accidental tourist *(in the Studio unintentionally), he immediately asks for résumé advice. Later I greet frequent flyers Alex and Andy, two highly anxious accounting majors who work in the Studio daily. They don't need anything today, but when I asked them why they come, they say they haven't written in a couple of years so they are terrified of the writing proficiency course they're in this term; they say making a habit of studying in the Studio seems wise "in case they get stuck."*
>
> —Roberta's post-shift reflection, 2016[10]

[10] You can't make this stuff up—these stories are pinch-me real, I promise.

What SBL *Is*: Principles

Although practitioners in the Hacherl Research & Writing Studio have developed —and continue to develop—many practices unique to our context (see Appendix A, pp. 32-33, for specific examples), we found many to borrow from in disciplines that have more thoroughly articulated SBL pedagogy and more frequently assessed its outcomes. While the minutiae of daily practice must be contextual, I devote the remainder of this chapter to articulating generalizable principles of SBL as a signature pedagogy.

1. **SBL features holistic learning for whole learners.**

Design educator Philip Crowther (2013, p. 20) asserts that SBL pedagogy addresses all types of knowledge corresponding to all types of learning, including learning *about*, learning *how* (see also Schön, 1985), and learning *to become* (see also Dutton, 1987). These three types of learning map well to the revised Bloom's taxonomy first suggested by Anderson and Krathwohl (2000) and perfected for visual presentation by Iowa State University's Center for Learning and Teaching (CELT)[11]. This revised taxonomy overlays Bloom's singular cognitive process dimension with a knowledge dimension that moves from concrete to abstract knowledge: factual, conceptual, procedural, and metacognitive. Figure 1 maps the types of learning featured in SBL to Bloom's revised taxonomy: learning *about* includes factual and conceptual knowledge, learning *how* includes procedural knowledge, and learning *to become* includes metacognitive knowledge. In building our pedagogy, we identified practices that attend to all six moves in the cognitive process dimension so that we support student learning

[11] To view either interactive or PDF versions of this multi-dimensional taxonomy, visit https://www.celt.iastate.edu/teaching/effective-teaching-practices/revised-blooms-taxonomy/

about academic literacies, in learning *how* to manage literacy processes, and in learning *to become* lifelong learners who can self-regulate scholarly practices to enrich their lives[12].

Figure 1

SBL types of learning mapped to Bloom's Revised Taxonomy (Iowa State Center for Excellence in Learning and Teaching, 2016)

Type of Learning	**Knowledge Dimension**	**Cognitive Process**	**Example**
Learning *about*	Facts	Recall	Periods usually go inside quotation marks in American English.
	Concepts	Understand	Sources carry more credibility if they are balanced and disclose bias.
Learning *how*	Procedural	Apply	Strategy: Thinking of an example will help me apply new facts/concepts.
		Analyze	Strategy: Thinking of an analogy will help me analyze facts/concepts.
		Evaluate	Strategy: Playing the "believing/doubting game[13]" will help me evaluate facts/concepts.
		Create	Strategy: Using a matrix can help me synthesize ideas.
Learning *to become*	Metacognitive	All	Strategy: Reflecting on my process helps me become a confident scholar.

[12] For a visual showing how suggested principles link to Hacherl Studio practices, see Appendix B, pp. 34-35.
[13] The *believing/doubting game* asks writers to first believe facts/concepts and then doubt them; it was first introduced as a critical thinking strategy by Peter Elbow (1998).

Although the Hacherl Studio primarily supports literacy-related learning, we embrace the principle of supporting holistic learning and learners and the corollaries bulleted below.

- Attend to all learning. Studio staff support learning, period. When we encounter visitors with needs beyond our expertise (rocket science, for example), we may not be able to coach factual or conceptual knowledge, but we can coach process and metacognition. For instance, we can ask "What strategies do you typically use for understanding a difficult concept, and how are those working for you right now?" Or we can offer new comprehension strategies if visitors tell us their go-to strategies are letting them down. Then again, staff may not be directly involved in learning; we also support learning by just sponsoring it in our space. Many visitors learn without any intervention from staff, and many seek intervention during some of their visits and none during others.
- Support learn*ers*. Concepts and processes take a back seat at times to just being human. We *hold space*[14] for whole people and their complex emotional and physical needs. Learners can't always just get to business in learning, so we also address motivation, affect, or whatever human need is most pressing in the moment. Sometimes we send visitors home to nap (or offer them a couch) and send them out for food (or give them food); other times, we help them register for classes or connect them to the Health Center. Many visitors simply use our spaces to have lunch with a friend or relax between classes. Because, you know, it's hard to learn without lunch.

[14] See Interchapter 5A, "Holding Space in Consultations," by Ally Duvall.

- Scaffold from strengths. Visitors are smart people who have learned about, how, and to become many things apart from what brings them to the Studio. We probe prior knowledge and show them how to apply it to their new situation. Scholars call this *transfer of learning* (Anson & Moore, 2017; Carillo, 2015; Devet, 2015; Driscoll, 2011; Driscoll & Jin, 2018; Haskell, 2001), but we call it *upcycling*, a term that resonates immediately with our sustainability-focused Pacific Northwest audience. Once we identify visitors' strengths, our goal is to redesign and repurpose past learning successes by introducing new strategies tailored to those strengths[15].
- Equip for the future. By coaching strategies for metacognitive reflection, we equip visitors to reflect on past learning, evaluate how that learning connects with present learning, and predict how they will use new learning in the future. For instance, in a typical sequence of micro-consultations, we ask a visitor to articulate their learning preferences, we choose and scaffold a strategy aligned with those preferences, and we leave visitors to implement the strategy. When we return for the next micro-consultation, we *go meta*[16] by asking the visitor to evaluate how well the strategy met their goal and to speculate what adjustments they can make for the next working increment. By serially going meta, we equip visitors for future learning, both in the next micro-consultation but also for learning after they leave the Studio.

[15] Leah Robinson offers a method for tailoring strategies in Interchapter 2B, "Channeling Dr. Frankenstein".
[16] *Going meta* is our term for prompting visitors to reflect metacognitively.

2. SBL invites learning community.

As discussed in Chapter 4, "Placemaking through Learner-based Design," traditional learning spaces imply a hierarchical power dynamic that academic support spaces may unintentionally replicate. Libraries are perhaps the most invitational of campus places because they offer long hours, configurable spaces, and no-appointment-needed support. Paralleling Western Libraries' as much as possible, the Hacherl Studio offers a boundary-free, drop-in environment that fosters social connection; it has become a de facto learning community. To foster that community, staff act as both hosts and guests. In our host role, we use many of the same invitational strategies used to make party guests feel pampered. For instance, we invite visitors to use all affordances as if they were their own. Instead of passively waiting for visitors to seek help, we engage even unintentional visitors proactively, which establishes connections with those who have questions they either can't articulate or feel shame in asking. Is there any among us who have denied needing help when in fact we did? In enacting invitational learning (Purkey & Novak, 2015), we intentionally keep our space open even when we're not staffed. Our learning community often arrives in the mornings before staff and stays in the evenings after staff leave.

But hosting isn't our only role; we also act as guests—that is, we act as if visitors own the place (because they do). Being invitational acknowledges that learning often happens without us and sometimes in spite of us. Many visitors spend longer hours in the Studio than the length of staff shifts, so visitors as often welcome us as we welcome them. When I arrive for a shift, it's common for me to hear a *frequent flyer*[17] say, "Hey

[17] *Frequent flyer* is our term for visitors so regular that we are on a first-name basis.

Roberta, time for your shift now, eh?" Unsurprisingly, visitors demonstrate ownership by arranging the furniture and affordances as they wish, so it's not uncommon for groups to build pop-up offices or to drag tables around[18]. Visitors use the Studio for their own learning purposes, including conducting focus groups for psychology research, creating a round-up of white boards for solving math equations, and gathering for test review sessions. As guests, we as staff decenter our own expertise in favor of multi-directional teaching and learning: learning goes up, down, and sideways as visitors learn from visitors, staff learn from visitors, and staff learn from each other. Wearing my host hat, I introduce visitors who are studying for the same test, but wearing my guest hat, I step aside to let visitors learn from each other without my interference.

Our learning community taught staff how important groups are to the learning process. Before the Studio, neither our library nor writing center facilitated much beyond one-to-one collaboration. But since our space is so inviting to groups (fully a third of our visitors learn with friends or classmates), we finally realized what our visitors already knew: learning communities are a high impact practice (Kuh, 2005; Kuh et al., 2015). At first, we scrambled to develop practices for connecting with groups, facilitating them, and supporting the group process. Though it's still an area for growth, we now offer strategies, tools, and workshops to aid collaborative work, and we also offer classroom-embedded group support for team-based research-writing assignments. By cultivating a guest mindset, we have been schooled in how much learning is done collaboratively, about how groups function and malfunction, and about how coaching

[18] Fun story: One visitor, now an alumnus, often had friends drop by to find him in the Studio. On more than one occasion, I have said, "Sorry, he's not in his office right now, would you like to leave a message?"

practices for individuals can often fall short of meeting group needs (Thalmann et al., 2016).

Learning in community means that members of the community share resources to promote learning for everyone, not just the learning of a few. Whereas library reference desks and writing centers cater in boutique fashion to individuals' learning needs, SBL supports the learning of the entire community. In any given hour, the Studio hosts 35 visitors along with 4-5 Studio Assistants offering micro-consulting on demand. Enacting a philosophy of no-visitor-turned-away, practitioners coach multiple learners in sequence or even together despite doing different assignments. Since spending time leisurely exploring the nuances of one visitor's assignment or a draft may mean ignoring another visitor, we maximize learning by iteratively scaffolding incremental goals. While one visitor works on task A, we check in with another working on task B. At first blush, the pedagogy may seem efficiency-driven; in fact, it *is* efficient. But the true motive is equitable access; micro-consulting multiplies learning for all by ensuring we cater to everyone, not just to those who plan ahead in making appointments (who among us doesn't have last-minute needs?), and by ensuring that no one is turned away during high demand. One might expect visitors to resent our split attention, but instead visitors seem invested in each other's success. Particularly at crunch times, a one-for-all, all-for-one team atmosphere prevails. Visitors know that if they share Studio Assistants with others, other visitors will return the favor.

3. SBL scaffolds learning-by-doing in iterative micro-consultations.

Although less discussed in our home disciplines, scaffolding holds a prominent place in educational theory (Harland, 2003) and in SBL pedagogy (Hetland et al., 2013;

Hogan et al., 2018). Scaffolding involves planning specific supports that move learners from existing to new learning. To build successful scaffolds, practitioners must be skilled at rapid assessment to determine the *zone of proximal development*[19] (ZPD) and at choosing strategies and approaches that bridge to the new learning (Vygotsky, 1978; Wood et al., 1976). Scaffolding success is key because nothing kills learners' motivation, agency, and persistence faster than failure. Given that SBL emphasizes three kinds of learning—*about, how, to become*—practitioners choose scaffolds appropriate to each type of learning. Traditional LIS[20] and WCS pedagogies, however, rely primarily on one type of scaffold: dialogue[21]. John Nordlof (2014) traces the origins of WCS dialogic methods to our social constructivist roots[22]. Although Nordlof notes numerous recent mentions of scaffolding in WCS scholarship, he suggests we have stopped short of using scaffolding as an explanatory theory. Much current research, yes, even some of mine (Kjesrud, 2015; Mackiewicz & Thompson, 2013, 2015; Nordlof, 2014; Thompson, 2009) starts from the question "In what ways does writing center dialogue scaffold learning?" If we believe Nordlof (and I do!), then research should start not with practice but with theory. More assessment and research into identifying a full range of scaffolding techniques and correlating them with types of learning would significantly forward practitioners in choosing evidence-based scaffolds[23] appropriate to specific learning goals.

[19] Simply put, the *ZPD* is a learner's next learning increment on a scaffold. Identifying a ZPD too small leads to boredom but too big leads to failure.
[20] LIS scholars rarely discuss either scaffolding or social constructionism. For instance, my recent search for *scaffolding* in ACRL journals returned fewer than ten results.
[21] Note that I use *dialogue* to indicate both verbals and non-verbals, such as body language and gesture.
[22] See Nordlof (2014, pp. 50–54) for a cogent synopsis of how social constructionist theory has justified dialogue as the main teaching practice of writing centers.
[23] See Appendix C, p. 35, for our first attempt to correlate scaffolds with specific types of learning.

This kind of theory-driven, explanatory research is quite rare in our home disciplines, but I suspect most practitioners intuitively know that dialogue poorly scaffolds learning *how*. Who among us jumped on a bike and rode smoothly away after having a long chat with an expert? Yet I spent much of my writing center career hoping talk would magically move writers from crummy to polished drafts in 45 minutes or less. Many of my dialogue-based sessions were scaffolding disasters; I pushed students too far too fast and heaped upon them a demoralizing amount of unactionable information. If watching students' brains explode was inconclusive, I saw other hard evidence. In my own graduate research (Buck, 1994), I saw that writers simply didn't substantively revise their writing; instead, they fiddled with commas. Was it because they simply didn't know how to revise? So what learning did my lengthy dialogues scaffold? I was forced to conclude not nearly enough.

Iterative dialogue for learning about

While acknowledging a place for Socratic dialogue, educational theorist Diana Laurillard prefers a more intentional conversation framework[24], which she defines as "a way of capturing the iterative, communicative, adaptive, reflective and goal-oriented actions with feedback…necessary to support the complete learning process…[which] has to operate on two levels, discursive and experiential" (2008, p. 140). Although she argues that highly intentional dialogue can scaffold growth in cognition, Laurillard suggests that learning *about* is only one piece of optimal learning, which she says requires holistic attention to these specific elements[25]:

[24] Laurillard presents a comprehensive visual representation of a highly iterative conversational framework for supporting the formal learning process (2008, p. 142).
[25] Although Laurillard's elements nearly match the SBL method, she does not mention studio-based learning.

- a task goal;
- a working environment for the learner to practice their actions;
- meaningful feedback on their actions in relation to the goal;
- the opportunity to revise and improve their actions;
- the encouragement to adapt and reflect in the light of experience (2008, p. 142).

In distinguishing between discursive (conceptual) and experiential (task/output), Laurillard locates the problem with dialogue: while it adequately scaffolds discursive learning, dialogue does not scaffold experiential learning. As learners cycle recursively through goal, action, feedback, and revised action, practitioners can use dialogue to help learners identify their goals and to give learners expert feedback, but practitioners must scaffold actionable strategies to advance procedural learning. Traditional writing center or library dialogues, then, adequately scaffold learning new literacy concepts and possibly, as Mackiewicz and Thompson (2013) posit, motivation.

Scaffolding strategies for learning how

Although growth in cognition and motivation are important outcomes of our dialogic practices, Laurillard (2001, 2008) raises a troubling limitation that scholars in our home disciplines have not acknowledged: dialogue simply cannot adequately scaffold learning *how*. To create space for experience and practice, practitioners must know when to stop talking and ask visitors to start doing[26]. Oddly, leaving visitors is uncommon in traditional pedagogies. In libraries, librarians act (e.g., finding sources), and in writing centers, tutors act (e.g., giving reader response); but we are content for

[26] For more on the importance of leaving learners, see Interchapter 2A, "The Art of Leaving" by Eric Bachmeier.

visitors to remain oddly passive. In studios, crafters practice their crafts: dancers dance, artists create, programmers code. And so in the Hacherl Studio, visitors research, read, write, and learn. Practitioners set visitors up for action by choosing or inventing (and offering a rationale for) one or more specific strategies chosen to match visitors' strengths and goals. And then we scaffold experiential learning in three steps: *I do* (practitioner demonstrates or models the strategy), *We do* (visitor tries the strategy with practitioners observing and offering feedback if necessary), and *You do* (practitioners leave; visitors implement). Scaffolding action builds in time cues, suggests a natural closure to each interaction, and keeps both practitioners and visitors engaged. I can so easily natter on explaining what a literature review is and telling visitors how to research and write one, but effective scaffolding relies on my equipping visitors with do-able acts to get them creating said review. They may need multiple micro-consultations before they have all the strategies they need, but they leave with tangible stuff—sources, writing, a plan—rather than a head full of ideas they later forget. All talk and no action, Laurillard would say, leads to a little learning but not to deep learning. Learning *how* requires action.

But not just any action will do. Scaffolding strategies does not yield learning unless learners can successfully implement them. In short, practitioners must not only scaffold; they must scaffold success. In responding to criticism that social scientists have been ineffective in solving wicked problems, organizational behavior psychologist Karl Weick (1984) proposes a strategy he calls "small wins." Since thorny issues prompt a level of arousal and agitation that quickly overwhelms, Weick suggests that we can only make progress when we "recast larger problems into smaller, less arousing

problems…[and] identify a series of controllable opportunities of modest size that produce visible results…" (1984, p. 40). These incremental wins amass over time to make big changes, but the small-win approach has the advantage of reducing cognitive load, lowering affective filter, and minimizing arousal (stress) (1984, pp. 44–46). Learning how to research-write may not be on par with solving climate change, but we know that students often catastrophize: "I'm going to bomb this assignment, be forced to drop out of school, and end up a loser for life." For students to succeed in learning *how*, practitioners must not only prompt action, they must keep the actions small and ensure that visitors win.

Our practitioners initially resist leaving visitors to work on their own, partly because they doubt their own abilities to scaffold small-win strategies and partly because they miss feeling needed (for me, it was mainly the latter). Choosing strategies for visitors is admittedly tricky: sometimes I select a strategy that's a poor match for the visitor, and sometimes, I scaffold inadequately. (Sometimes I do both.) Experience helps me avoid these glitches, but so too do explicit repair strategies like reading visitors' body language while they are working alone, checking in sooner if I sense confusion or impending failure, and tweaking strategies based on visitor feedback. Not feeling needed takes some getting used to, because unlike traditional sessions, visitors' *aha* moments now happen after I leave; I miss the feel-good reward. But eventually I realized action promotes more learning all around. Staff learn important leadership skills like how to assess rapidly, practice executive decision-making, and leverage small successes for larger goals (Meyerson, 2001; Weick, 1984). Visitors take full credit for problem-solving because they rightly attribute success not to us but to themselves. As visitors gain

success through two or three micro-exchanges, we see growth in self-regulated learning, both at the person level where they often indicate, "I have the ability to do this task" and at the task level where they often say, "This task is not so daunting after all" (Efklides, 2011). Even if they don't articulate increased agency, visitors' actions show it: after the first two or three micro-exchanges, most dismiss us in favor of crafting their own way forward. (An aside: I now find being dismissed even more rewarding than an *aha*.)

***Metacognitive reflection for learning* to become**

Although learning *to become* may not be an explicit part of all library or writing center missions, it's the main mission of higher education institutions (HEIs). If our programs are central to that mission (and they are), we must find practices that scaffold becoming lifelong learners. But scaffolding learning *to become* is as daunting to practitioners as becoming good research-writers is to most of our visitors. Most visitors give us the same speech: "I suck at research and writing." Changing an I-suck core identity takes so much more than a 50-minute traditional session. Let me be clear: I don't think our Studio has entirely figured out scaffolding *to become*. But I do see that iterative dialogue, action, and meta-reflection support an *about-how-become* sequence better than our traditional sessions. For instance, serial micro-consultations virtually guarantee metacognitive reflection[27] on actions, because when we return after leaving, we instinctively ask "How did that strategy work for you?" or to borrow from Bachmeier[28] "So what did you come up with?" Even this prompt models for visitors the need to take periodic steps back from their work and evaluate how it's going. When

[27] In her proposed MASRL model, a model that incorporates metacognition and affect in self-regulated learning, Efklides (2011) posits a reciprocal relationship; that is, better metacognition and affect improves self-regulation and vice-versa.

[28] See Interchapter 2A: "The Art of Leaving."

things aren't going well (like when I was drafting this section), learning to stop doing something faster, harder, stronger, longer, just stop: to rest, to reflect—that is learning to become a meta-aware, self-regulated learner. These metacognitive micro-exchanges take place over an entire academic arc, not just in one visit. Since the Studio becomes a learning community to many, studio as place and as pedagogy supports becoming. Visitors stay long, come often, and in the process incrementally experience what we hope are enough *becoming* increments to notice unhelpful *I-suck* self-talk, to accrue new successes, to appreciate their strengths and preferences, to evaluate attitudes and strategies that enable or disable, and to make self-adapted choices in becoming agents in lifelong learning.

> *Source Searchers Sam and Chris, bageled and coffeed, are back and fired up. Can I help them find another source? Absolutely! But hold up, the health education project group has hit a snag; they simultaneously summon me to help them make sure their joint paper doesn't contain five different voices. Since I'm pretty sure the group will take longer to sort, I tell them I'll first check with the Source Searchers to get them started…is there something productive the team can do for 10 minutes? "Sure, we can try formatting some tricky citations for you to check."*
>
> *When I join Sam and Chris, I mention the Team Health group also needs me but that I think we can build on a strategy they were working on before: picking up on subject delimiters I noticed in the first pass. Soon they discover a promising trail, so they wave me away: "Roberta, we've got this if you want to check on that group for a bit. But can you come back in 20?" Team Health, here I come! And the first thing Team Health says when I return is, "Good timing, now we're* actually *ready!"*
>
> —Roberta's post-shift reflection, 2016

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Appendix A

Anatomy of a Face-to-Face Studio Micro-consultation

Purpose	Staff/Visitor Actions
Entry	Most visitors (80%) self-select seating in their zone of choice; they get to work. Some visitors (20%) approach a small kiosk on a mission for help; they select a seat.
Greetings	After visitors settle, staff sit down with them to ask "What are you working on today?" and "How is school going?"
	Staff explain Studio pedagogy and how to use a table tent displaying Visitor status: Hard at Work, Taking a Break, or I Have a Question.
Hard at work	Staff leave visitors to work on their own, checking back every 30 minutes or so.
Taking Break	Staff ask if they need creature comforts but otherwise leave visitors to relax.
Have Question	Staff sit down with visitors and ask how the project is going, how they feel about it, what their immediate goal is.
	Staff ask visitors about what is going well, what their strengths are.
	Staff suggest a strategy that will help visitors achieve an immediate goal. Strategy is negotiated/revised based on visitor input.
	Staff models strategy, the *I do* step of scaffolding
	Visitors try the strategy for a few minutes with the staff standing by, the *We do* step of scaffolding
	Staff leave; visitors work on their own, the *You do* step of scaffolding

Return	Staff return when summoned or after 10-20 minutes; Staff guide visitors in meta-reflection to assess strategy and progress toward goal
	Based on the visitor's self-assessment, the most common next steps: 1. Staff tweak the strategy for a better match to the visitor's strengths, then leave for another round of *You do* (25%) 2. Staff scaffold a new strategy based on the visitor's new incremental goal (30%) 3. Visitors ask to keep working on their own till they get stuck and use the table tent to summon help (45%)
Return Again	Micro-consultations are recursive until visitors have met their goals

Appendix B

Pedagogical Principles/Practices Heuristic for Studio Staff

	Holistic Learning	**Learning Community**	**Iterative Scaffolding**
Practices	**Affect:** Are basic needs met to satisfy necessary conditions for learning?	**Inviting:** How are we attending to hosting visitors in our living room?	**Goals:** What rapid assessment strategies are we using?
	Upcycling/Transfer: What strengths and prior learning can visitors draw from?	**Uninviting:** In what ways are we being unintentionally uninviting to our visitors?	**Action:** When and with what strategies are we leaving visitors to act on their own?
	Learning About: What cognitive process moves need to be scaffolded?	**Shared authority:** How are we attending to being good guests in our visitors' living room?	**Feedback:** What size bite of feedback are we offering?
	Learning How: What gaps in procedural knowledge can be addressed?	**Collaboration:** How are we facilitating visitors working together?	**Goal:** What new goal emerges after the preceding action?
	Learning to Become: What life-long learning, scholarly identity growth can be achieved?	**Group feedback:** What collective feedback are we offering based on group patterns?	**Action:** What new/revised strategy are we offering for the next increment of action?
		Group strategies: What strategies are we offering for negotiating conflict, organizing group process, expressing one voice?	**Feedback:** What metacognitive reflection are we facilitating?

Appendix C

Scaffolding Cognitive and Procedural Outcomes

	Factual ***(about)***	**Conceptual** ***(about)***	**Procedural** ***(how)***	**Metacognitive** ***(to become)***
Teaching Moves	● Tell facts & rules ● Give examples	● Explain concepts and rationales ● Share resources	● Suggest/tailor strategy ● Model strategy (*I do*) ● Practice strategy together (*We do*) ● Give feedback	● Describe current & possible identities ● Reflect visitor's identity back to them ● Notice unhelpful behaviors/ attitudes ● Notice strengths
Facilitating Moves	● Prompt recall of prior knowledge ● Elicit goals/ requirements	● Ask questions to prompt connecting ideas and building new knowledge structures	● Upcycle prior process strengths ● Leave work time for independent practice (*You do*)	● Offer choices and guide analyzing risk/reward ● Guide reflection on work time ● Prompt self-awareness ● Hold space ● Attend to basic needs like eating, moving, resting