

How Do Our Tools Connect to Our Practice? Investigating What Tools to Pick for a Multimodal Communication Center

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Communication centers are spaces of mediation. They involve tutors and clients negotiating sessions. The work these clients do may be spoken, written, or otherwise shown. That is where tools come in, like the hard copies of written and visual artifacts, the laptops or tablets that display them digitally, the projectors that allow for presentation practice, the printers that generate physical copies, and so on. For a communication center, tools allow tutors and clients to display media, work on media, and think about media in innovative ways.

Tools are unavoidable; even paper and pen are tools used to record ideas and take notes during sessions. The addition of new tools promises that tutors and clients can work in new genres or come up with innovative practices that help clients improve their work. However, with those promises come some potential problems. The new tool may not fit with the center's current mission or the kind of sessions it has been set up to support. Perhaps that tool requires more training and effort to be successfully used. Maybe it is soon outdated. To add a further wrinkle, even if a tool is chosen, many communication centers work with budgets that require yearly justification. A director must successfully make an argument for a tool, even if it is hard to know what uses that tool will find before it has been tested or bought. For these reasons, communication center administrators need information that allows them to provisionally understand how these tools are used.

This article approaches this question of utility in two respects. First, a survey and observational data of Georgia Tech's Communication Center highlights three broad categories of tool: core tools embraced by the core praxis of a center; modal tools specific to supporting particular modes of communication; and peripheral tools tied to particular pedagogical methods. All three of these tools can have a place in productive communication center practices. Second, while there is no "best tool," the pedagogical applications of each tool are plotted out and paired with some basic questions to help guide the difficult decision of what tools or technologies a center might invest in. Summarily, while administrators may not know all the potential uses of a tool before it is acquired, there are pedagogical applications that can serve as baseline arguments for buying them.

Background

Previous writing and communication center research on technology use often focus on promising applications of a single technology to a pedagogical context. This research draws connections between the tool and a practice that was not previously connected to that tool. For instance, Boquet, Bowen, Forsa, Hagan, and McCall (2008) argue that the iPod's recording abilities help tutors reflect on their sessions with students. Similarly, Stephenson (2001) describes using toys or manipulatives in a brainstorming exercise to connect the

physical act of construction to thinking. In other words, tools are often discussed as having the potential to exercise a higher order process in a way that existing tools cannot.

These studies are tool-first, in that they track the introduction of one kind of tool into an existing context and then look for changes to the existing dynamic. In contrast, center-first studies document the tools and spaces of a given center and then account for how these tools fulfill that center's mission. As case studies, surveys, or full-blown ethnographies, they give a pragmatic picture of how that space functions, whether that space is Florida State University's Digital Studio (McElroy et al., 2015) the Noel Studio at Eastern Kentucky University (Carpenter and Apostel, 2016), Clemson University's Pearce Center (Gresham and Yancey, 2004), New Mexico State University's Writing Center (Mageehon, 2008), or Georgia Tech's Communication Center (Head and Burnett, 2015). Their goal is to situate their tools and space design within a larger institutional context and mission.

Thick descriptions of specific studio and center spaces has considerable value. For a communication center with a budget surplus, knowing another center uses a given tool helps directors make informed decisions about what to buy. That was certainly one of our initial intentions in designing the survey at the center of the article. Still, in these visions of what a communication center could be if *one more tool* or *one more design* were added, we also wondered what the existing tools were doing to reach their audiences.

One thread of space analysis focuses on what students get out of the technology and design of that space. McKinney (2005) deconstructs the conventional discourse about making a center feel like home. The coffee pot, couch, and other tools of the

"home" center design indicate to McKinney a middle-class and white American idea of home. Instead of idealizing a space in a particular mode or advocating for adding one more tool, she calls for examining the identities reinforced in center design. Then Singh-Corcoran and Emika (2011) pose the possibility that many clients of centers view center spaces as "non-places," or places with which students have little emotional attachment. Rather than using analysis to articulate what center spaces should be (like a place where students must belong), they focus more attention on what it means to support students who may not fit the "center as home" model.

Spatial deconstructions may not spend as much time focusing on communication center tools. Nonetheless, the tools and how they influence their audience are implicit in the discussion of a space. They offer a reminder that even traditional tools (pen and paper) or incidental tools (the coffee pot) add to the student experience of a center space. Even the tools clients bring with them may affect the mission or the practices within a communication center. Accounting for these tools has helped us better understand the pedagogical and affective affordances of our center, even as we have primarily chosen to focus on the former in this article.

Pedagogical utility is a big question surrounding technology during tutoring sessions. When multiple, specific tools are discussed in terms of their uses during tutoring, tools appear only as valuable as their potential usefulness in tutoring. As Eodice (2005) reflects on tablet usage in the center, "Really cool stuff is really only as cool as its uses." Eodice voices a caution against embracing technologies without first looking to their effect on meeting learning objectives. Similarly, Lerner (1998) emphasizes the need to answer just what technology does to center practices and

missions: “writing center professionals can be a skeptical lot, experienced in carefully reading texts and uncovering hidden agendas; when it comes to our future with technology, that skepticism is perhaps our greatest asset.” To reach these skeptical audiences, research on technology in the writing center needs to make seemingly “hidden agendas” open, or present methods to ascertain the effects of technology on tutoring practices and missions.

Like Eodice, we seek to define some grounds for assessing the usefulness of a broad range of tools used in the center, while adding actual assessments of tools presently available. One model influencing our own is the E-BEST acronym proposed by Coskie and Hornof (2013) to guide writing workshop design:

- E: Embed technology in writing content
- B: Monitor tech use: Busy does not mean purposeful
- E: Keep a critical Eye: understand potential problems and power
- S: Promote Social interaction
- T: Teach technology explicitly

Some principles are proactive in tone, like connecting technology to genre- or mode-appropriate content and promoting social interaction using the tools available to students. Other principles promote a more cautious and reflective tone, cautioning that “busy does not mean purposeful” (producing content does not mean learning) and that one must understand the potential problems and the potential power (capabilities, affordances) of a tool.

These represent two practices, one goal-oriented and one analytical. The proactive principles E--ST identify a goal first (social interaction, teaching technology, working directly on content with tools), which would influence what tools are chosen. The analytical principles --BE-- guide assessment by identifying common

problems once a tool is being used in a workshop. Similarly, technology use in tutoring also should be approached from either analyzing the effects of technology in-session or framing specific questions and learning objectives to guide their use.

Assessment

The following sections of the article approach space and tool use in centers from three perspectives. The first uses a survey to document how tools are typically used in the Communication Center at the Georgia Institute of Technology. The survey methodology will be given first, followed by results represented according to the three patterns observed. Some tools were being used almost ubiquitously, while others were being used less often but were tied to specific applications. The second perspective generalizes the common and possible applications of the tools in communication centers like ours into three categories: core tools, genre-specific tools, and application-specific tools. The third generalizes from the first two sections to recommend questions communication center administrators can ask about new tools they might acquire.

Survey Methodology

Over two weeks (10/19/2016 to 11/1/2016) we conducted an IRB-approved voluntary survey of how tutors use spaces and technology during sessions. After filling out tutoring notes for each session, participating tutors were asked to answer three questions delivered via a web form on Google Drive: one about what space they used, one about what tools they used, and one about the material being used in that session. These questions and the possible range of answers are listed below.

1. During the tutoring session, we used the following tool(s):
 - a. Paper and pen/pencil
 - b. Desktop computer
 - c. Laptop
 - d. iPad
 - e. Dry erase board
 - f. Smartboard
 - g. Recording device
 - h. In-room projector
 - i. Digital screen
 - j. Laser printer
 - k. 3D printer
 - l. Other (tutor supplies answer)
2. During the tutoring session, we used the following space(s):
 - a. Primary tutoring space (CommLab)
 - b. Computer workstations
 - c. Breakout room
 - d. Rehearsal studio
3. During the tutoring session, we addressed the following concerns:
 - a. Writing in a discipline
 - b. Speaking in a discipline
 - c. Written professionalization (resume, cover letter, personal statement)
 - d. Oral/nonverbal professionalization (mock interview, elevator pitch)
 - e. Language acquisition
 - f. English 1101/1102
 - g. ISYE senior design

The survey was designed to focus on specific tools and spaces. “Tool” was defined as a device that allowed tutors and clients to work on some mode of communication. These devices display, project, or otherwise convey multimodal content. We decided not to include other potential tools, like furniture, outlets, or beverage makers, because while they may

all be used during sessions, our initial focus was primarily on multimodal, digital, or otherwise communicative tools used in sessions, and secondarily on tools that would be more expensive for a center budget. “Space” was defined as a distinct area of the center that may be partitioned with either walls or visual obstructions. As an example, the computer workstation area is visible to the primary tutoring space, but it is partly obscured by a Smartboard. Furthermore, it is further away from the main door and as a result feels less *open* to outsiders. As for “concerns” listed under question 3, we wanted to represent both writing and speaking in academic and professional genres. Furthermore, we wanted to focus on three demographics that were commonly seen in our center: language acquisition for ELL students, English 1101 and 1102 for the required first year writing sequence, and ISYE senior design for a capstone project in a department we coordinate with, Industrial and Systems Engineering. Summarily, the list should not be read merely as a catalogue of tools, spaces, and sessions we tutor, but an identification of the forms of engagement Georgia Tech’s Communication Center values. We wanted to know whether actual tool and space usage would reflect what center administrators value.

Participation in these surveys was voluntary and anonymous. The survey could not be required or expected because it was not listed in student contracts, which also meant that we could not track or report the performance of individual tutors, even anonymized, since tutors might be identifiable if one was known to use tools not commonly practiced by others.

Survey Results

Over the two weeks, surveys were filled out for 65 sessions out of the 95 on the schedule, a response rate of 68%. The results are organized by the three trends found: tools used almost universally, tools used with oral presentations, and tools that saw occasional use.

Results and Discussion

Core Tools. Every session involved the use of one of two tools: a laptop and paper/pen. 37 out of 65 sessions involved a laptop and 39 used a paper and pen. In 13 of these sessions, tutors or students used both laptops and paper/pen. This result broadly agrees with conventional communication center practices in two ways. First, centers often encourage engagement with a written artifact in either the medium it was produced (often a laptop) or in the medium it will become (usually a hard copy of client work). Second, tutor pedagogy often encourages the use of paper and pen for note-taking, no matter the mode of communication. Both students and tutors are bringing these media into sessions to record, annotate, and illustrate points during sessions.

Session parameters may affect whether a session uses a laptop or paper, but the effects are limited. Fewer professionalization sessions use laptops (15/30; 50%) compared to academic sessions (22/34; 65%). It is unclear why this might be the case. One explanation focuses on genre: professional genres like resumes and cover letters often involve a reader looking at a hard copy, so that it is customary for students to bring in a hard copy instead of a laptop. In contrast, academic sessions may involve more projects which would be inefficient or impractical to print (a blog post, a video, or a presentation). Institutional affiliations also

affect the use of hard copies: at Georgia Tech, the Center for Career Discovery and Development (C2D2) and other organizations host resume workshops where they encourage students to bring hard copies for review. When they recommend students also come to the Communication Center, their recommended practice may carry over to the center.

Oral Presentation. Tools for oral presentation formed their own category in the results. A projector or TV screen was used in 2 out of 65 sessions (2%). The rehearsal room saw use in both of these sessions, and these two sessions were devoted to oral communication. This fits Communication Center policy, which reserves these rooms for students practicing presentations, mock interviews, or other forms of oral and visual communication.

Despite the small number of sessions recorded, the rehearsal rooms and the tools associated with them are vital to the Communication Center's mission as a writing and speaking center. Without some separate space like the rehearsal rooms or the breakout rooms to practice speaking genres, a presentation could still be run in the main space on a Smartboard projector. However, such a session would face two obstacles: other tutors and students may be distracted in the space at overhearing someone's audience-facing speech; the student or group rehearsing may feel self-conscious at having their performance open to people entering and leaving a well-trafficked space. Whereas genres of writing can be worked on in a variety of spaces, tutoring in an oral mode benefits from having a restricted or specialized space.

Occasional Tools. Other tools were used on occasion. For instance, dry erase boards were used in 6 out of 65 sessions (10%) and iPads were used in 7 out of 65

sessions (11%). Both of these tools serve supplemental purposes: iPads can be used to take notes, record audio during a session, or bring up specialized resources on the internet; dry erase boards can be used to take notes, draw mind maps, or generate free writing during a session. Their application is not genre dependent, since one can do any of these activities for an essay, a resume, a poster presentation, or a video.

Tools that are only used occasionally have capabilities that overlap with more frequently-used tools. Why, for example, would tutors prefer paper and pen to an iPad during a session? One possible reason is a lack of training. In the past two years, neither peer nor professional tutors currently in our center have undergone focused training to learn how iPads or dry erase boards can be applied pedagogically. During this time, professional tutors have entered the center with their own pedagogical practices. The staff who used iPads at previous centers may be more likely to use them.

Otherwise, discussions of tutor pedagogy tend towards making basic practices in consultations consistent: providing active engagement rather than proofreading for a student, for instance. These discussions offer valuable training but potentially set aside discussions of space and technology. Tools may come up as a negative: tutors should not type or write for a student; tutors should ask permission before using a student's laptop to read student material. Future work would need to examine how these tools are taught.

Tools Not Used. Finally, several tools were not used in sessions. The desktop workstations and 3D printer were not utilized for tutoring. Partly this seems due to genre: relatively few student projects require the use of a three-dimensional object generator, however impressive that may

sound. Also, these tools are used more often by tutors outside of sessions to do things like print objects for office use or to prepare session notes and tutoring materials. Perhaps because they already see use, tutors have less incentive to set aside time to figure out how to use them *during a session*.

This survey was an initial stage for studying how technology works in the center, and the further analysis is based largely on contextual information like the mission of the center and personal knowledge of its training. In terms of data collection, our next step is to run some case studies that are coded for some of the distinctions featured in this discussion: how do tutors perceive the values of these tools or spaces? Do they distinguish between genre- and task-dependency? How do they view potentially-useful technologies that are not currently used in tutoring? We set aside these concerns at present to focus in greater detail on these tools and potential applications.

Now What? Organizing a System for Communication Center Tools

The previous section represented the results to a survey on tool and space use in the Communication Center. This section will reconsider those results by organizing them according to the pedagogical applications of these tools. The primary claim in this section is that the use of these tools should be understood as committing to three distinct pedagogical practices: core practices employed in virtually every communication center session; practices used on specific modes or projects; and practices used by specific tutoring styles. Looking at communication center tools in this way, center directors can plan how they will acquire and support their tools in the future.

Core Practices and Tools

The survey indicated that paper and pen or laptops were used in every session. In discussing those results, two possible reasons for their prominence were stated: one, that these tools allow students and tutors to interact directly with written projects; two, that note-taking is a core tutoring practice employed by virtually all of the tutors in the center. This subsection examines the support for why these tools and practices are so dominant in the Communication Center.

Writing and communication centers commonly employ a “hard copy” policy, where they require that a printed copy of a written project be brought to the session.¹ Alternatively, they encourage clients to bring in notes or draft material in electronic or print format; the Sweetland Center for Writing (2017) at the University of Michigan encourages students to bring “ideas about or a draft of [their] writing project in electronic or hard copy.” The Communication Center at Georgia Tech (2017a) also allows for either printed documents or electronic files. The appointment page urges: “Make sure to have any files needed for the session either ready to print or present on our projector. If you're bringing a digital document, we prefer having the file on a flash drive.” Summarily, whether in printed or digital format, clients and tutors expect to engage with a copy of the materials during a session.

These rules imply that the hard copy, the assignment sheet, and other files involved are also tools involved in the

session. These documents are accessed through some medium, usually the paper they are printed on or the laptop allowing the documents to be accessed. Having them fulfills the client's and tutor's expectation that they work directly with the client's material.

Having them, also allows a tutor to practice having the client engage directly with their own work. A common accompanying practice to a hard copy policy is that a tutor allow the client to make any adjustments to their own materials. Commonly this is a policy against “copy-editing” or similar practices that would involve tutor composition.² Even where tutors model editing for the sake of a client, the emphasis is on the client's ability to learn from that modeling. For instance, Shamoan and Burns (2015) defend more directive tutoring practices for advanced students, who would still be able to engage independently in modeling just as advanced students might learn from a master. Tutors may reference or suggest changes to points in documents, but the document is ultimately client-facing. In this way, the paper or laptop as a tool centers attention on the client and their work.

A laptop or paper may also be used by a tutor for taking notes of their own. These notes may allow tutors to keep track of comments they want to make during a session. They may also be used to aid in post-session reflection, allowing tutors to recall the most important elements covered during a session. How these notes lead to reflection vary; the Communication Center keeps track of the post-session reports

¹ See Emory Writing Center (2017) as an example.

² The Communication Center (2017b) at Georgia Tech explains how a tutor helps teach a client strategies rather than working on a hard copy directly: “Tutors are not copyeditors. They are here to help you learn strategies to become a better communicator overall, not to “fix” your project.” The Emory Writing Center (2017) has a similar policy

below its hard copy policy, explaining that they do not engage in content-generation: “In accordance with the Emory Honor Code, EWC tutors will not write work for other students. Writing includes composing, revising, proofreading, and editing. Instead, tutors work with writers to discuss strategies and resources.”

prepared from these notes so that tutors can adjust their approach based on what has worked or not worked in previous sessions.

Tutoring handbooks commonly identify these note-taking functions as a core practice. Gillespie and Lerner (2008) recommend that tutors write down the answers to key questions at the beginning of the session, like what the assignment was, what the central point was, and what concerns the tutor the most. The idea is that the tutor can return to these answers later to give feedback about a point or concern raised at the beginning. Then when a client presents their work, Gillespie et al. (2008) emphasize the effects on tutor attentiveness: “You’re taking notes, listening” (p. 30). Similarly, Ryan and Zimmerelli (2016) recommend that resources and tools like “scrap paper, sticky notes, highlighters, and pens and pencils” be kept handy (p. 12). These are used to keep track of concerns during sessions, like “mak[ing] a list of concerns and items ... that could be covered” (Ryan et al., 2016, p. 14). Recording helps organize thoughts and practices.

While these guides most often imply that paper is the medium for note-taking, laptops and tablets also allow for similar note-taking functions. Tutors could keep notes in a word document or use a tablet and stylus to hand-write notes. Existing educational practices tend to give tutors and clients plenty of experience in doing these practices on paper or in a document. Thus displaying student work and taking notes are core practices, and a select set of tools facilitate these practices. Paper and pen remain the most common tool for this practice. Laptops are commonly used for displaying student documents. Laptops and tablets have many of the same affordances for tutor note-taking but may require extra training to practice these effectively.

Summarily, the tools that are core to Communication Center practice seem to offer the least resistance in relation to both center objectives and tutor expertise. There are fewer hurdles in terms of learning how to use them and accessing them during a session. If one wanted to change this, it would require addressing policy and putting in the necessary time for training and research.

Specific Modes and Tools

A number of tools are specific to the modes employed in a given project. Computers are most often used for born-digital projects with visual design components. Various recording and display tools are used for presentations with oral, visual, and gestural components.

For electronic projects that involve making a short film, an infographic, a website, or the digital component of a presentation, laptops with the software necessary to work in these genres are especially beneficial. Students and course curricula often determine the software used: iMovie, Adobe InDesign, Microsoft Powerpoint, Canva, and Wordpress are examples of programs students use to work on their visual projects at Georgia Tech. In these sessions, tutors may be providing more general advice about how to write and design in that mode. They effectively act as experts in communication rather than experts in a specific tool. However, if tutors have training or experience in a particular suite of programs, they may also provide specific technical advice for how to work effectively with those programs, and there may be benefits to having tutors combine communicative and technical expertise.

Recording devices allow clients to see themselves present and record sessions for later reflection. The affordances of these tools vary. Dedicated camcorders allow for

recording both oral and visual components in one package. Webcams or cameras built into tablets or phones can offer a lower-fidelity and less expensive alternative, which may be suitable if a tutor or client decides that they want to record a discussion during a session. For centers with the dedicated space and resources available, cameras and microphones can be installed in a room dedicated to rehearsal. For its four rehearsal rooms, the Communication Center uses wall-mounted cameras in its rehearsal rooms along with a microphone installed in the ceiling. These tools and the control panel for controlling them required IT personnel to install and maintain them. Also, they require some training for how to deliver recorded files to students. Students are advised to have a USB drive or a laptop on which to upload any recordings they make. The capacity to create a video file that models client performance can allow tutors and clients to review performance during a session, as well as giving the client a sustained recording they can learn from post-session.

Frequently, clients are giving presentations that are supplemented by some visual component, whether it is a static image, a PowerPoint or Prezi presentation, or a live graphic display. Projectors allow clients to practice with presentations in circumstances resembling their final performance. They may project a desktop or laptop display onto either a projector screen or another lightly tinted surface, like a wall or a whiteboard. A dedicated screen gives greater visual clarity and leaves out incidental markings or features that may be on a wall. A whiteboard allows one to annotate what is displayed with a dry erase marker, though in this case changing slides or scrolling down a page would make the marks irrelevant. In either case, projectors require at least 8 feet horizontally in a room to display an image and some cables to

connect to a desktop or laptop computer that will provide display input. .

Digital displays are the main alternative to a computer/projector setup. Smartboards are like projectors combined with a digital dry erase board, allowing both the display of content and the live manipulation of the display. Digital markers can be used to mark up what is displayed on the screen or the screen can be touched to advance the presentation. Their primary limitation is space; unlike a projector or screen, a Smartboard cannot be discreetly packed up when not in use. The Communication Center uses its Smartboard as a space partition between the main space and its computer workstations; smaller rooms may also put it against a wall to leave a space open. Finally, TVs or other digital displays can be used to show a presentation. These screens better approximate the colors found on a laptop or desktop monitor screen. They often work well for digital artifacts like infographics and videos. They can also be used for presentations, with the caveats that a digital display may represent color contrasts clearly where a projector would not, and that room lighting makes a greater difference for a projector than a digital display.

For static display, printers can provide opportunities to test or demo the appearance of a project in its material form. A laser printer accommodates most documents. A plotter printer is necessary for posters or larger displays. A 3D printer allows the printing of objects or artifacts designed in a program like AutoCAD. While a communication center could ask clients to bring in a printed object to the session, there are a few advantages to being able to print in-center. In-center printers allow the process of printing to become part of a tutoring session, where the tutor and client can discuss the goals the client wants to meet with a print test. Tutor and client can

discuss how colors may differ between screen and printing, as the ink combinations attempt to approximate the combinations of pixels. Elements of design like margins, alignment, print time, and proximity become clearer once a document moves from the comforting abstractness of the screen to the stark material requirements of a printed project. Finally, tutors can use the downtime during printing to discuss various higher order concerns without having to look at the current project. While a tutor can create the space for that discussion anyway, printing tools provide a built-in opportunity to discuss the larger stakes of what is being printed.

Presentations and visual materials form a small percentage of the Communication Center's clientele. Nonetheless, they form an important part of its identity. Having the tools to support tutoring sessions in speaking and presentations represents its speaking center *bona fides* and distinguishes the center from being considered exclusively as a writing center. Audiovisual tools also enable important partnerships, like the Communication Center's support for presentations in senior capstone projects in Industrial and Systems Engineering or continued work with undergraduate poster presenters.

Specific Pedagogical Methods and Tools

Some tools have pedagogical applications that are more specialized. Perhaps they amplify an otherwise core task. Perhaps center missions do not define the tasks these tools perform as a central part of their mission. In the Communication Center, tutors can successfully run sessions without ever requiring these tools. Nonetheless, the tools have the potential to further support and enhance tutor pedagogy.

Portable whiteboards are a large note-taking apparatus that can involve both tutor and client. They can facilitate various brainstorming processes like mind-mapping and freewriting. They can also help with revision later in the process, allowing for reverse outlining, chunking, and similar visual forms of revision. The principal advantage of whiteboards is their size, which allows for tutor and client to work at the same surface at the same time and to have relatively equal claims over the space, promoting equal accessibility. A sheet of paper or a laptop screen is only big enough to accommodate one viewer comfortably. One potential disadvantage is the tendency to fall into a directive method of instruction - a tutor standing and writing out a point to a sitting client. Like the other tools, practice and reflection would help to align this tool with pedagogical practices satisfying a center's mission.

Devices that allow for portable recording (standalone recorders, iPads, laptops, phones) can be used to record and repeat what clients say over the course of a session. The pedagogical idea behind these tools is that clients may be adept at describing the overall purpose or a particular idea of a project to a tutor, even when its presentation within that project needs further work. Audio recording allows these moments to be highlighted and emphasized more precisely than recording by hand or a tutor's injunction to "write down what you just said." These tools invite further deliberation about pedagogical effects: are the tutors or client okay with the entire session being recorded? Who records the session? Do issues with confidentiality or anonymity arise due to recording? Just as the Communication Center adopts certain policies in response to note-taking by hand (for example, no tutor can give their own notes to a writer), these methods of recording may require communication

center directors to consider the policies surrounding their use.

A number of tools can be used to bring up references. Books and handouts are common tools for providing specialized information on a particular topic. These tools are as good as the organization system for that information; a file system or shelving system can make the difference between finding a guide on MLA or APA citation and avoiding the resources during a session because it would take too much time to search. Digital tools like a laptop and iPad can be used to bring up a number of resources. Quick web searches can provide important information on word and phrase usage. More specialized databases like the Corpus of Contemporary American English (COCA) can also be used with clients in discussions of common language usage. The use of these resources mainly require some point of access and time set aside to experiment with them and organize them.

Organizing the Tool List

As a summary, Tables 1 represents the core tools, tools applying to specific modes of communication, and tools applying to specific methods of tutoring.

Table 1: Pedagogical affordances organized by tool

Tool	Pedagogical Affordances
Paper and utensil	Notes, instructional Interacting with project
Laptop/iPad	Notes, instructional Interacting with project Recording (audiovisual) Reference and research
Camera	Recording

	(audiovisual)
Portable voice recorder	Notes, instruction Recording (audio)
Microphone	Recording (audio)
Projector	Interacting with project Presentation display
Digital screen	Interacting with project Presentation display
Smartboard	Notes, instruction Interacting with project Presentation display
Laser printer	Printing project
Plotter printer	Printing project
3D printer	Printing project
Dry-erase board	Notes, instruction

“Notes, instruction” is a general designation for many of the methods that a tutor might employ with a client within a session: note-taking, diagramming, outlining, mindmapping, suggesting options, and so on. “Interacting with project” may use many of these methods (note-taking on a document), but the medium has changed to the project a client has brought in. “Presentation display” involves showing the project for the purposes of presentation. “Printing project” refers to producing a physical version of a client’s project. “Reference and research” tools allow specific resources and databases to be pulled up digitally.

The table helps summarize the principal issue with putting tools into three separate categories: the categories overlap tools in the second two sections have many of the capabilities the most commonly used tools have. Tools like poster printers, though

applied to particular modes (visual projects), also may have specific methods of tutoring associated with them (like talking with a client through the visual organization of their visual work).

When tools are organized according to their potential uses, as in Table 2, they better answer the question, “If I want to do practice X, what tool Y might I pick?” Some of these categories also overlap. A laptop or desktop has to be connected to a presentation display or a printer to make it work. The capacity to display, print, and record may foster new pedagogical methods. Thus these tables should be formed and revised according to individual centers’ needs.

Table 2: Tools organized by pedagogical affordance

Pedagogical Affordance	Tools
Notes, instruction	Paper and utensil Laptop/iPad Portable voice recorder Smartboard Dry-erase board
Interacting with project	Paper and utensil Laptop/iPad Projector Digital screen Smartboard
Presentation display	Projector Digital screen Smartboard
Recording (audio and/or visual)	Laptop/iPad Camera Portable voice recorder Microphone
Printing project	Laser printer Plotter printer 3D printer
Reference and research	Laptop/iPad

Questions to Ask When Acquiring Tools

Communication centers have used a number of tools to support pedagogy that might otherwise go unmentioned in an article like this. Toys and similar tools can help build haptic connections with communication projects. Standing desks or bean-bag chairs can put tutor and client in new spatial relationships with one another, encouraging different modes of collaboration. Scissors and similar materials can encourage deconstructive revision methods. Regional and national writing, speech, and communication conferences are great places to find these kinds of applications being workshopped.

Once a new tool, mode, or application is discovered, a number of questions can help explore whether to obtain that tool or how to use an existing tool differently. A specific tool, the affordances that it has, and the pedagogical methods that can be performed with that tool form a triad. Directors and tutors alike can use this triptych relationship to reflect at every potential stage of practice.

If a center is interested in a specific tool

- research thoroughly how centers, other learning spaces, and even spaces not focused on learning, use the tool
- receive some guidance or training in how that tool might be used; experiment with applying that tool in specific situations
- put into words how a pedagogical application advances a present mission
- brainstorm whether that tool can exemplify an objective or goal presently undefined by one’s center

If a center is interested in a specific affordance or capability

- research what tools allow that
- compare both costs and benefits between tools, including the cost of occasional training, reflection, and maintenance
- define a list of anticipated pedagogical applications
- discuss with tutors why they might try the tool and why they might be reluctant to use it
- put into words how the capability might advance or expand a center's mission or objectives

If the center is interested in a specific pedagogical method or objective

- articulate what that method or objective is
- pair it with the capabilities or affordances one might want
- research to what extent currently-possessed tools could be used to practice that method
- compare these tools to potential tools of that type available for purchase

These actions are starting points for research. One point needs little reminder: communication centers are budget- and time-limited organizations. Financial costs can vary widely for many tools, so one will want to work through institutional channels to figure out those costs. Tutors only have so much time to apply, research, and reflect tools. It is possible to incorporate new tools and methods into existing practices, but often this must occur over time. While pursuing these questions, center staff may also want to keep in mind the time and resources necessary to answer them.

Conclusion: Finding the Space

The primary limit to an article like this is how quickly the specific information within it will grow obsolete. Specific tools change frequently: iPads now seem more common than iPods; style guides update often; who remembers PDAs? Communication center goals and missions also transform over time.

In response to these two forms of change, we highlight the value of surveying technology use and assessing current and potential roles of tools in the center. Taking all the tools within one's center and organizing them in a systematic way can help center administrators articulate what they found valuable in our own practices. It is a necessary step in further staff development and research. Such work can also help other centers justify new funding for tools that help them accomplish their pedagogical objectives. Technology use and design is not a one-off activity, but a process that develops over years of dedicated work.

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