Beyond Asynchrony: Markers of Quality Technology-Mediated Teaching

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The author wishes to thank the editors at *Advances in Online Education* for permission to share this edited version of "Beyond Asynchrony: Evaluating Hybrid and Live Online Teaching" that appeared in their journal's Spring 2023 issue.

Introduction

When Ann H. Taylor, B. Jean Mandernach, and I wrote *Evaluating Online Teaching* in 2015, our research and advice covered the range of possible online instructional scenarios: the majority of online teaching took place in what we might nowadays call "traditional" online spaces that were intentional simulacra of the on-ground classroom: bounded spaces like learning management system (LMS) shells that afforded a highly mediated and structured range of possible interactions among instructors, learners, and the tool sets within those spaces.

Largely asynchronous, online teaching left a clear trail of observable phenomena. Announcement posts, discussion threads, and comments on student work were all captured in the LMS space, to an extent far beyond what an observer in a 60-minute physical classroom session could ever hope to capture. At the time of publication, we worried that access to such a cornucopia of observable data points would lead to "analysis paralysis," and we advised peer and administrative observers of online teaching to limit their observation to one unit or online session,[1] much as an on-ground observer might be limited to observing only one or two class periods of live class time.

We now find ourselves in an instructional world where the bounded environment of the LMS, with its data all collected in one place and curated through structured tools, seems almost simple. Especially as a result of the emergency remote instruction in which most of us engaged during the COVID-19 pandemic, the possible permutations and definitions of "online teaching" have exploded—to the point that WCET's recent release of formal category definitions for offerings across the spectrum of technology mediation, itself the result of more than 20 years of research and disentangling of competing and overlapping definitions, has come under critique for

lumping so many different kinds of technology-mediated experiences of teaching and learning under the "hybrid" category—e.g., blended, technology-added, and hyflex are all "hybrid."[2]

For the purposes of those of us tasked with observing, evaluating, crediting, and critiquing the teaching that happens at our institutions, the expansion of temporal, spatial, and conceptual modalities for teaching means that we can no longer assume that looking in one "place"—whether that is a classroom, an LMS shell, or a Zoom recording of a live remote session—will afford us a representative sample of the teaching practices and behaviors that the instructor exhibits. In plain language, we can no longer assume that we're getting a clear picture of someone's teaching by selecting a single place to look for teaching behaviors. This best-practice article outlines what has changed in technology-supported and -mediated teaching and offers ways to observe and assess online teaching that is consistent, equitable, and fair.

Observing "Traditional" Online Teaching

To be fair, observing and assessing teaching of all stripes has always been a challenge. Taking notes during a single 60-minute classroom-based lecture session prevents observers from discerning patterns among class sessions, seeing office-hour and after-class support discussions, and bringing technology-mediated communications such as email messages and phone calls into the evaluation. In traditional online teaching, observers must set aside similarly opaque teaching instances, either because of the sheer volume of observable data from among which to select, or because some teaching behaviors take place beyond the space and time of the observation—email messages explaining concepts and answering questions, individual live remote consultations, and grading feedback that is captured in the LMS but not available to the observer.[3]

We knew how to observe and evaluate this sort of teaching, though. The set-aside interactions for on-ground and traditional asynchronous online teaching were almost wholly idiosyncratic and situation-dependent: hard to measure, categorize, and quantify. So, we focused on replicable and quantifiable teaching behaviors as the key measures of quality teaching. We learned to separate the evaluation of the design elements of online courses (content that exists in the LMS before interactions begin) from that of the teaching behaviors exhibited by instructors (the "regular and substantive"[4] interactions inherent in the definition from the U.S. Department of Education). In traditional asynchronous online teaching, the key indicators of quality were the level, frequency, and depth of interaction, engagement, and guidance of learners, as indicated by announcements, discussion forum posts, and commentary in various media in response to student questions, activity, and concerns.[5] The observation of online teaching was largely free of the "observer effect,"[6] wherein the presence of observers changed the behaviors of instructors and students, because observation could take place after the teaching interactions took place: the teaching interactions under observation take the form of text-based or media evidence, to which observers have ready access in the LMS.[7] Evaluation of such online teaching behaviors used measurable, repeatable, & consistent criteria.

The Expanding Universe of Observable Teaching Behaviors

Today, however, the sorts of teaching interactions that we previously set aside as un-observable may themselves make up the preponderance of the interactions in which instructors engage with their online and technology-mediated learners. While LMS data remain the largest category of observable traces of technology-mediated teaching, we can no longer assume that they are representative, or even primary, sources of data about the teaching happening in online

and technology-mediated spaces.[8] Three recent changes allowed instruction to break out of its classroom- and LMS-based "box": inexpensive telepresence, emergency remote live instruction, and the establishment of new definitions of "regular and substantive" interaction from the U.S. Department of Education.

Since 2018, and during the lockdown years of the COVID-19 pandemic especially, reliable, simple, and inexpensive live telepresence has come within reach of most people in North America and Europe. Beginning with live-whiteboarding applications like Blackboard Collaborate and culminating in the near-universal adoption of the category-killer app Zoom across remote-teaching spaces,[9] the two-way wrist communicator from the old Dick Tracy comics is finally here for a large enough segment of the public that, during the pandemic lockdown, live-video teaching sessions became the de-facto replacement for on-ground in-person sessions, rather than asynchronous LMS-based online teaching.[10]

This ready availability of synchronous live remote tools led in turn to the fracturing and fragmentation of teaching actions across spaces that are not all curated by, or easily accessible to, peer and administrative observers. The pandemic saw an expansion of the number of instructors using technology mediation in order to continue teaching. Instead of a small self-selected group of tech-savvy instructors using online tools for teaching, in early 2020 nearly everyone had to shift quickly to live-remote collaborative video sessions as good-enough replacements for on-ground lectures and discussions, out of necessity. Worldwide, we observed a significant drop in the number of technology-mediated teaching interactions used for the awarding of tenure, promotion, and re-employment during the pandemic lockdown period, as administrators unsure about how to observe or assess teaching quality in new and unfamiliar modalities retreated to the

safety of observing data-rich environments—or skipping observations all together under "emergency" practices.[11]

Into this confusion, the U.S. Department of Education's clarification of its criteria for defining quality in distance-education programs seemed like a belated wake-up call. The new criteria for 2021 defined a minimum for levels of interactivity in distance-education course offerings, requiring that technology-mediated teaching be a) instructor initiated, b) regular and frequent, c) academically substantive, and d) engaging along at least three lines of practice among direct instruction, assessment/feedback, providing course information, group discussion, and a catch-all "other" category.[12] With these updated definitions and criteria, observers of online teaching now have clearer baseline focus areas against which to distinguish met/not-yet-met criteria.

Six Shifts for Teaching-Evaluation Methods

Nearly everyone has now taught using technology mediation of some kind. The universe of possible modalities, tools, and loci of interaction has expanded significantly. We can now define the shifts in the narrative of evaluation techniques, examine the alignment of teaching principles across the spectrum from synchronous on-ground interactions to asynchronous LMS-bound online connections, and establish recommendations for observing and evaluating technology-mediated teaching across formats.

I propose six major shifts in how we approach teaching-evaluation techniques. There are likely to be many more than these; focusing on these shifts allows us to adjust how we approach the process of observation and evaluation of online and technology-mediated teaching.

Shift 1: Definitions Have Blurred

First, few on-ground course offerings are strictly classroom-based any longer. The availability of LMS resources and tools, especially, has encouraged on-ground instructors to adopt formerly online-only practices as part of their nominally "traditional" course offerings.[13] It is rare today to find an on-ground course that does not at least use the LMS as a file cabinet for content and materials. A majority of on-ground instructors also report having at least one class activity taking place in a technology-mediated space beyond the place and time assigned for class meetings.[14]

Likewise, instructors who adopted live Zoom-based class meetings during pandemic lockdowns also created "good enough" hybrid structures that extended teaching interactions beyond the live sessions, out of whatever tools were handy—LMS-based tool sets like discussion forums and assignment dropboxes, as well as shared-whiteboarding and shared-construction tools in Google Suite.[15]

Shift 2: The Rise of Hyflex Modalities

The second shift to which we should pay attention is the rise of hyflex teaching, or, rather, the rise of imperfect and patched-together hyflex teaching. Since its 2006 inception in the graduate courses of Brian Beatty,[16] many institutions and individuals have adopted what they call hyflex teaching. True hyflex teaching adopts two core elements. One, students can choose which modality to use for any given class meeting. They can select to participate in the classroom or to be remote online participants—for every class meeting—such that instructors do not know and cannot predict from session to session whether they will have a classroom full of learners, a conversation with only remote learners, or a mix. Two, learners can choose whether to attend and

participate in the learning environment synchronously or asynchronously—this is the part of hyflex that, to date, fewer instructors have adopted widely.[17]

Thus, for hyflex instructors, there is a need to perform teaching behaviors and interactions in at least three different modes: guidance of learning live and in-person (to the learners present in the physical classroom), guidance of learning live and remote (to learners participating live via technology mediation alongside their physical-classroom counterparts), and guidance of learning asynchronously and remote (for learners who select the asynchronous path). In essence, the instructor is teaching three ways, two of which happen simultaneously and a third of which is its own separate pathway for learners.

While few instructors have the resources to be able to offer true hyflex experiences to their learners (due to small budgets for teaching assistants, large-enrollment course assignments, lack of development time, and other factors), college and university administrators have seized on the hyflex model as a way to increase outreach and work around scheduling difficulties[18]—often without realizing the resource allocation needed in order for hyflex teaching to be successful. This creates a conundrum for observers of hyflex instruction: where and how deeply does one look in order to gain a meaningful understanding of the impact of teaching behaviors?

Shift 3: Supporting Occasionally-Remote Learners

The third shift in the online and technology-mediated teaching landscape leads to a "lighter" version of the hyflex observation conundrum: the inclusion of remote learners in otherwise in-person live learning situations. As institutions shifted away from pandemic lockdowns and began offering traditional live on-ground courses again, many students still needed accommodations to remain remote, due to health, care-giving, and other reasons.

For instance, at the University of Wisconsin-Madison, the disability-support center historically saw an average of three remote-attendance requests per semester across more than nine thousand course sections. Once classes went back to traditional in-person offerings in 2021, the number of formal requests for remote attendance skyrocketed. The disability-support center partnered with the campus teaching and learning center to train and support instructors in how to integrate individual remote learners into live class activities or provide alternative support mechanisms for remote learners on a one-to-one or one-to-few basis.[19] This presents an overlap in the skill set for observers of traditional teaching methods, who now need to know what good online or technology-mediated teaching looks like, as well.

Shift 4: A Sustained-Lecturing Comeback?

The fourth shift in the narrative of online teaching is what we may call "lecture simulation syndrome." Because the pandemic lockdown forced most instructors to find quick methods to continue teaching, nearly everyone chose tools that allowed them to re-create "good enough" simulacra of their lecture-based class sessions. This led to most remote emergency instructor taking the form of live talking-head lectures, with minimal interaction or engagement from learners. To be fair, not every instructor defaulted to remote sustained lecturing, but enough did so that student satisfaction with their learning experience sank precipitously during the "Zoom U" years.[20]

The adoption of live remote sustained lecturing goes against the four pillars of quality in online teaching established by the U.S. Department of education, above. For would-be observers and evaluators of live-video sessions, the question arises of how to assess the engagement and

interactivity of what are essentially "sit and get" experiences for learners—and which could easily be discounted as content and not part of teaching behaviors at all, were they not done live.

Shift 5: Assume Technology Use In and Beyond Formal Spaces

Shift number five is that more technology mediation is coming into on-ground in-person teaching. In conjunction with the addition of technology mediation beyond the formal spaces and times of on-ground teaching, online technology and methods are coming into the classroom for teaching purposes, as well. The shift from purpose-created "classroom clicker" response systems to polling and interaction via smartphone-friendly apps is nearly complete, and in-person instructors now routinely interact with learners during live on-ground sessions using online tools and techniques.[21]

For example, in large-enrollment on-ground courses, the use of shared-authoring files in Google Suites has become a standard way to collect and offer feedback on outputs from small-group activity exercises. For observers of on-ground teaching, here is another scenario where knowledge of and access to online techniques and tools becomes necessary.

Shift 6: Learners Want to Keep Flexible Options

Finally, a sixth shift in the narrative around online teaching has to do with the evolving value placed on lecturing and course-meeting attendance, generally. The headlines of articles note a trend among on-ground students that seems informed by their recent experiences of online and technology-mediated learning: for instance, "why students are skipping class so often, and how to bring them back."[22]

The expectations of students post-pandemic seems to be trending toward lowered barriers, more options, alternative paths/formats, and more ways to fit study into already crammed daily schedules alongside work, caregiving, military service, and a host of other commitments. As institutions and programs adjust to this new demand landscape, we risk furthering a digital divide between the technology haves and have-nots, both among our learners and among our programs that receive differing levels of financial, human, and temporal resources.[23] For observers of online and technology-mediated teaching, this adds a new wrinkle to our observations: how much of what we see in the teaching behaviors of our colleagues is due to resource abundance or constraint?

Updating Our Observation and Assessment Methods

Perhaps paradoxically, the addition of live remote interactions into the spectrum of common teaching behaviors—things like Zoom sessions, collaborative whiteboarding, and even good old-fashioned phone calls—has helped to close the perceived gap between classroom teaching and online teaching skill sets. In our book *Evaluating Online Teaching*, we argued that good teaching is good teaching, regardless of its modality, the technology mediation used to accomplish it, or the temporal constructs within which it takes place.[24] In 2015, our argument tried to bridge the perceived distance between observations of on-ground teaching—that sometimes privileged non-teaching characteristics of attention control like eye contact and voice tone—against the perceived lack of substantive interaction that administrative observers unfamiliar with online teaching methods saw in traditional asynchronous LMS-based online teaching.

Today, however, live on-ground teaching (what we might term "traditional classroom teaching") and asynchronous LMS-based online teaching are widely seen as poles along a continuum of nearly endlessly-combinable teaching methods, modalities, and time frames. This helps to support the "good teaching is good teaching" approach that is format and practice agnostic across variations in teaching situations. It also resurrects a two-fold challenge for observers and evaluators of teaching quality: how do I know where to look, and how do I know if what I observe is representative of the quality of the teaching that is happening?

To this end, here are three recommendations that add to, expand, and underline the advice from our 2015 book about observing and evaluating online teaching. Add observer-to-observed communication as a prequel to observation, look beyond the class period for evidence, and use a consistent set of modality-neutral criteria for critique and comment.

Update 1: Require Pre-Teaching Communication

In traditional on-ground classroom teaching, the best place to observe teaching behaviors is in the classroom during scheduled class meeting times. While it may sound obvious to say so, such a statement sets up one of the key points from our 2015 book on evaluating online teaching: we assume a lot about where and when teaching happens. Teaching behaviors for on-ground classroom courses also happen during office hours, in telephone calls with students, in lab sessions, and while instructors are marking student work—all of these teaching behaviors that happen beyond the space and time of the classroom and class meeting period are set aside, not because they wouldn't provide us with meaningful data for our observations (they would), but because they would require much more time and coordination to observe, time that observers often don't have.

The same held true when we advised in 2015 that trying to create an "equivalency" between a 90-minute observation of a classroom-based course meeting and a unit or week in an LMS-based online course was a doomed enterprise because of an access differential:

> Part of the confusion about observing face-to-face and online versions of the same course has to do with the visibility of the content and behaviors that fall within (and outside of) the scope of what can be seen by the observer. For example, in a face-to-face class, the administrative observer typically does not come to the instructor's office hours to observe one-on-one interactions with students, nor does the observer review a sample of the instructor's e-mail communication with students. The observer does not typically ask to see the instructor's notes for the class period.[25]

We must now move beyond the advice that observers ask for copies of instructors' outlines or plans for online lesson, class meeting period, or unit, knowing that access needs will be limited to LMS tools.

We can no longer assume that the bulk of the interactions between online instructors and students will take place in an LMS, which formerly allowed us to discount or set aside other meaningful interactions that take place beyond the primary space and time of the LMS, just as we do with non-classroom-based teaching interactions for on-ground courses. Rather, online courses are now expanding beyond the "walls" of LMS environments.[26] Meaningful, regular, and substantive teaching is happening in the LMS, in live-video-sharing tools, on Discord servers, and myriad other technology-mediated places.[27] Because instructors are no longer necessarily tied to LMS environments, pre-observation conversations with online instructors are no longer nice-to-have elements, but necessities. Prior to the observation, ask instructors where teaching is

happening regularly, and obtain access to those tools and spaces. For live elements like Zoom sessions and shared whiteboard engagements, such access and observations might mirror observation methods we are used to employing in classroom-based scenarios; for asynchronous interactions, we may need to probe with instructors ahead of time about what "counts" as a teaching interaction. In other words, observers cannot assume that we will "know it when we see it" about teaching behaviors in multiformat and multi-platform teaching spaces and models.

Update 2: Find Teaching Evidence beyond Formal Spaces and Times

A related shift is to look beyond the class meeting period for evidence of teaching. When conducting observations of live on-ground teaching, observers' time restrictions and a lack of access to many teaching interactions (e.g., office hours, phone calls, grading sessions) funneled the focus of observations to just classroom teaching interactions. Even with traditional asynchronous online courses, we couldn't look much further than various LMS tool sets like discussion forums, announcements, and sometimes digital gradebooks. Now, many teaching behaviors that used to be ephemeral are recorded, and observers can examine such traces as evidence of teaching quality.

This raises a conundrum for observers of online teaching. In order to be consistent in our observations among various instructors, and in observing individual instructors over time, there should be some boundaries about what, where, and when to observe. In 2015, we attempted to address the issue this way:

> A secondary concern about the scope of what administrative observers may use for evaluation has to do with the boundaries of the course-delivery environment. Many instructors, whether teaching face-to-face or online, perform teaching

actions outside of formal instruction. For instance, instructors in both face-to-face and online classes may meet with students for office-hour consultations and engage in student consultations via e-mail and telephone calls. In the face-to-face environment, such contact, although it definitely meets the definition of "teaching," is not counted toward administrative observation because it is not readily visible and measurable to the observer.

However, in the online environment, these behaviors may or may not be visible, depending on the technical setup used at the institution. In institutions where the course delivery environment includes text-based "chat" and synchronous-environment features, faculty office hours may be recorded and stored in logs accessible to the instructor and/or students in the course. More commonly, many instructors have a "Q&A" or "water cooler" topic in their online discussion forums that is intended for general questions about the course—but such discussion topics are almost never a required element of the course design.

One way to resolve the question of where observers may look is to think about the boundaries present in both face-to-face and online class observations. In a face-to-face class, the boundary is the classroom itself. Interactions that take place outside of the physical location of the classroom, including office-hour consultations, phone calls, and e-mail messages, are not counted toward the observer's evaluation. An easily-defined boundary in online courses would be to consider excluding those same types of outside-of-formal-instruction communications from the observation and evaluation process.[28]

Our logic in 2015 was that there were two possible modes for teaching: traditional classroom-based on-ground instruction and asynchronous LMS-based online teaching. Even in 2015, this was a convenient fiction—instructors mixed, modified, and extended modalities—but it allowed us to create big-bucket ways to think about how to approach the observation process.

Now that teaching can take place in many different spaces, modes, and time frames, we should drop our notion of the "class meeting" all together, and ask instead when, where, and how teaching behaviors take place regularly. This was the impetus behind the U.S. Department of Education's recent clarification of the "regular and substantive"[29] directive related to accreditation of online programs.

Put plainly, class-meeting, unit, and other period-based observation limits my no longer be representative of the bulk of the teaching behaviors that can be observed. Our earlier advice about the boundaries of observation was to

> create a core agreement that identifies elements of online courses
>
> - that are *always* counted as teaching practices (e.g., discussion forums, group-work areas, and feedback on student assignments);
> - that *may* be counted as teaching practices, depending on structure and interactivity (e.g., supplemental materials, spontaneous "mini lectures," news/announcement items); and
> - that are *never* counted as teaching practices (e.g., pre-constructed lecture content, graded tests/quizzes, major course assignments, links to web sites, and content created by third parties like textbook publishers).[30]

Now, we can add one more factor to this mix: elements of online courses that are created by the instructor as the course unfolds, in response to learner needs, feedback, and interactions. This

helps us to maintain consistency of purpose in our observations, even as the places where we look and the evidence of teaching interactions multiply.

Update 3: Abandon Separate Observation and Assessment Instruments and Methods

Given that nearly every instructor is using technology mediation or support for teaching interactions that go beyond formal teaching spaces and times, regardless of the nominal modality of the learning interaction, our recommendations for observing and assessing live technology-mediated teaching thus look very similar to those for observing "traditional" live teaching sessions: agree with the instructor about the time frame to be observed, and set up access to the space(s) where teaching will take place. In order to be consistent in "observing, evaluating, crediting, and critiquing"[31] the teaching behaviors that one observes, observers must agree beforehand about the places to look.

For instance, in a live Zoom session, the video, audio, and chat feature might be "in bounds" for observation of the teacher in action. The "where to look" question becomes more complex as we layer modalities. For hybrid offerings, where instructors employ both on-ground live sessions and online synchronous or asynchronous sessions in a planned order, observers should adopt a smorgasbord approach and sample both offering modalities. For hyflex offerings, where learners choose whether to participate on-ground or remotely in live sessions,[32] observers should look at both environments simultaneously—an impossibility shared by the instructor—or at least follow the instructor's focus on remote or in-room participants.

Further, observing recordings is often preferable to attending live sessions. Just as with the preference to observe completed units in online asynchronous offerings, observing recordings after live sessions have taken place allows observers to rewind, review, and look at elements of

the environment and interactions that might have escaped notice during a live look-in. Over all, the advice for observers of hybrid and live online teaching is to prepare ahead of time for the observation by establishing clear boundaries and expectations, in consultation with the instructor wherever possible. Then, sort the teaching behaviors from the content and materials, just as you would with an observation of an asynchronous online unit or session.

Conclusion

The expansion of online teaching from a narrow, clearly-defined set of practices into a panoply of modes, methods, and approaches[33] is a benefit to learners and instructors alike. Although evidence of teaching quality can now be found and documented in many more places and spaces than ever before, examination of those places and spaces reinforces our use of the general principles of observation and assessment—indeed, what had often been perceived as separate modes of instruction (in-person, online asynchronous, synchronous remote) are revealed to be points along a continuum of teaching practices. By recognizing multiple possible ways that teaching can happen well, we expand the responsibility of observers to do more than just show up and look.

The addition of fluid evidentiary structures requires collaboration and discussion with instructors in order to map where observers should watch for evidence of teaching taking place. There is now also a sharp need for updated training for department chairs and other observers: even the practices in our 2015 book need to be augmented to take live-webinar, hybrid, and hyflex teaching into account. We can feel like it's 1999 all over again: yet again, department chairs and other administrative observers may never have taught using the same tools or in the same formats as instructors are doing now. It's incumbent on all of us to update our observation

and evaluation skills so that, regardless of where, when, and how our colleagues are teaching, we can provide observations and evaluations of their teaching that are consistent, equitable, and fair.

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