Implementing Live Online Professional Development for K-12 Educators: Case Studies and Recommendations from a National Resource Center

Anna Mudd
Center for Middle Eastern Studies
Harvard University

August 21, 2014

Executive Summary

In 2010 the U.S. Department of Education Office of Educational Technology released the document "Transforming American Education: Learning Powered by Technology." In addition to outlining goals for online K-12 student learning, the document advocates for increased online professional development (OPD) for educators. Citing a need to connect teachers in an often-isolating field and provide sustained access to content experts and best practices, the plan states: "A transformative idea in the preparation and professional learning of educators and education leaders is to leverage technology to create career-long personal learning networks within and across schools, preservice preparation and in-service educational institutions, and professional organizations." National Resource Centers for Foreign Language, Area, and International Studies are well situated to pursue these goals. Live, engaging, online professional development allows centers to disseminate expert university content and resources beyond geographic boundaries, and connect educators from disparate educational contexts.

This document highlights successes and challenges in implementing webinar-based professional development for educators via the Center for Middle Eastern Studies (CMES) and other National Resource Centers (NRCs) at Harvard University from 2010–2014. Over these four years the outreach program at CMES ran seventeen webinar-based programs, encompassing nearly forty live web sessions, connecting hundreds of educators and members of the general public in twenty-six states and five countries to scholars, authors, and artists. Although this document draws on outside resources, it is not intended to serve as a comprehensive review of literature or best practices. Drawing largely on firsthand experience developing and implementing webinars to serve our local and national network, it explores key lessons including:

- There are real and substantive ways in which live webinars can support the goal of delivering high quality professional development experiences to educators, but the format is not the right fit for every program, and is subject to its own challenges. Strengths of OPD include increased geographic reach to participants, ability to easily engage with scholars and program partners outside of a home university, ability to preface or extend in-person professional development, low cost, and ability to easily record programming for asynchronous learning. Challenges include technical troubleshooting and compensating for registration attrition rates.

- The strengths of OPD have the potential to support and amplify many goals for outreach and professional development, but solid implementation requires the ability to match program objectives to the strengths of the online medium. Live, web-based programming can take a variety of forms, from one-hour information sessions to multi-session mini-courses and discussion-based online seminars. Professional development providers must consider the reasons for integrating a live, online component into their programming, and what tools and formats will best match these motivations.

- The added variable of physical distance makes it critical for program providers to be intentional about designing sessions to engage participants. While the online medium can present challenges for promoting participant engagement, tools available in the virtual classroom can also be used in the service of greater interactivity. Creative use of the chat box, participant polling, and presentation images, in addition to video and microphone capabilities for participants, can result in highly inquiry-based and participant-centered programming.

- While many learning objectives and instructional approaches for OPD will be the same as those for in-person professional development, careful planning is necessary to deliver online programming that runs smoothly; this includes creating program scripts or storyboards to coordinate multiple program presenters, orienting participants and presenters to the online medium, and being proactive about technical troubleshooting.

Context

Participation in quality online education is increasingly relevant to professional development for K-12 educators as online learning for K-12 students becomes more prevalent. State-level adoption of online learning mandates continues to grow, evidenced by legislation in Alabama, Florida, Michigan, Minnesota, Virginia, and Idaho that requires (or "strongly encourages") that students participate in some form of online education prior to high school graduation. Idaho has adopted online teaching standards and is also the second state after Georgia to establish a state-level online teaching endorsement. As student participation is encouraged, so too is educator fluency and literacy in online pedagogy.

On the university level, with the launch of educational nonprofits like EdX, the possibilities for Massive Open Online Courses (MOOCs) have garnered a large amount of attention on university campuses and in the press. A lesser-discussed counterpart to this large-scale approach are online learning opportunities with smaller class sizes that utilize chat, video, and audio feeds for synchronous class experiences. This format is used by the Harvard Division of Continuing Education, which offers both hybrid and fully web-based courses. These can be limited enrollment and are not free (sometimes called "SPOCs": Small, Private, Online Courses).

Combining benefits of both of these models, including free content, open access, and small, synchronous meetings that allow for discussion-centered engagement, has been a productive model for NRC outreach at Harvard. It has allowed the CMES outreach program and other Harvard regional studies centers to reach educators well outside the New England area, increase accessibility to educators who cannot make it to campus, and partner with other NRCs across the country.

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

2

Webinars offered by the CMES outreach program have been premised on the following assumptions:

Teachers as scholars. By providing teachers with challenging pre-readings and offering opportunities for discussion and direct engagement with expert scholars, writers, and artists, this programming seeks to engage educators in a seminar-like experience. A focus on live discussion eschews a banking model of online programming in which participants passively receive information.

Accessibility. Webinars are free and can be accessed by anyone with a computer and an internet connection. The majority of online program sessions are recorded and made available online for free.

Platform and Format: What does a webinar look like?

The webinars discussed in this document were offered through free web-conferencing platforms that run either through Java or Flash and do not require purchase or download of any additional software. Each platform includes spaces for live video and audio feeds, display of presentation materials such as PowerPoint or photographs, and a chat box where participants can share messages to the full group or privately with webinar facilitators. The web platforms we used allowed for "break-out rooms," in which participants are divided into smaller groups for conversation. In large or small groups, participants have the option to interact via their microphone and webcam or via text in a live chat box. While session speakers and presenters always use full voice and video, participants are told that an external headset and microphone (or embedded microphone) is preferred though not required. Typically one to three video feeds are visible at a time.

Sessions took one of several formats:

One-time, one-hour sessions. These typically consist of a short presentation from a speaker and time for question and answer from participants. Pre-reading is often provided, but preparation required from participants is minimal. Examples include "Egypt as a Teachable Moment" and "Comparing Revolutions: Learning from the Arab World and the Fall of Communism."

Multi-session series. These programs approach a single theme through multiple perspectives and speakers, with each session including a short presentation and discussion. Pre-reading is integral to participation, and participants may be asked to submit responses prior to each session. Examples include the two-part webinar "Islamic Art: Technology, Visual Culture, and Power" and the year-long "Global Literature Online Book Group."

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

3

Online seminars. Like webinar series, online seminars meet multiple times. However, the focus of these programs is on participant discussion, rather than a speaker's presentation. Participants read and prepare more robustly for each session, which include discussions as a group as well as in smaller break-outs. Examples include the "Graphic Novel Book Group" four-part seminar and the "Graffiti and Street Art" three-part seminar.

Hybrid Programming. Hybrid programming combines on-campus workshops with online sessions that preface or extend in-person teaching and learning. Participants in the on-campus workshop were the primary audience for online sessions, but online sessions may be opened to other participants as well. Examples include the three-part program "Unearthing the Dead Sea Scrolls: Religion, Politics and Science of its Excavation," which included two post-workshop webinars, and "Visualizing Global Studies: A Mapping Workshop for Educators," which included one pre-workshop webinar.

Advantages and Disadvantages

There are real and substantive ways in which live webinars can support the goal of delivering high quality professional development experiences to educators, but the format is not the right fit for every program, and is subject to its own challenges.

Advantages

In its report "Enhancing Professional Development for Teachers: Potential Uses of Information Technology," the National Academies Teacher Advisory Council (NATAC) cites advantages of online professional development as "Informing teacher practice, flexibility and versatility, potential to build community among teachers and across groups, and improvement of teacher retention by enabling teachers to become more directly involved in their own learning and professional growth." These align closely with CMES outreach experience in implementation of live, webinar-based programming.

The two case studies discussed below highlight multi-session OPD, in which educators meet together over the course of multiple weeks or months. Because regional studies content is interdisciplinary, and often appears throughout a variety of departments on the K-12 level, educators wishing to collaborate with colleagues on regional topics are without a unifying professional network such as the National Council of Teachers of English or the National Council for the Social Studies. This makes all the more crucial the OPD advantage described by NATAC: "Professional development that uses online technologies can also connect schools to schools, schools to districts, districts to other districts, and states to states. It can seek out the commonalities among schools serving different groups of students, with benefits to all partners. In addition, it can tap into expertise no matter where it is located, so that teachers with a specialty or an expertise can serve as resources for teachers elsewhere."

This benefit has been articulated in participant feedback about Harvard NRC OPD programming provided through evaluation surveys and informal communications:

- "It was fascinating to hear ideas from participants from around the world and learn that their observations are in many ways the same, but also varied." [via program evaluation]
- "I really liked being part of a class/group of varied people. The questions and comments were not necessarily in my area, and so they made me think about new views." [via program evaluation]
- "The webinar was educational, productive, and convenient. It was exactly like sitting in a grad school class, but I could be at home. I was able to ask questions and add comments, which were all addressed in the lecture. I think it would be nice to have something like that on a regular basis so educators can come together to learn from the speaker, but also from each other. I think a large number of the participants of the webinar would be interested, just from the comments and conversations we had during the first two webinars. Great idea!" [via email]
- "What a wonderful idea. Please keep doing these webinars because they are a great way for educators to share ideas and connect. I like the one hour session with an option of the extra Q&A time. That is perfect. Thank you!" [via program evaluation]

The webinar format has also enabled Harvard outreach programs to co-sponsor programming with institutions outside of our geographic region. Examples include the webinar "Literature in Translation: The Novel Granada," which was jointly sponsored by CMES and the Georgetown University Center for Contemporary Arab Studies and the two-part series "Impacts of 9/11: The U.S. and Afghanistan and the U.S. and Iraq," which was jointly sponsored by CMES, the Middle East Studies Center at Portland State University, Carolina Center for the Study of the Middle East and Muslim Civilizations, and The Choices Program at Brown University's Watson Institute for International Studies. Partnering with such outside organizations widens reach by giving disparate networks of constituents access to co-sponsored programming.

In addition to increased accessibility for those outside the New England area, OPD makes programming more accessible for local participants with scheduling and childcare challenges or mobility issues. Sessions can be joined from home, school, or any other location with a computer.

Finally, certain costs and logistics associated with brick-and-mortar workshop spaces do not apply to online sessions. Meetings can be recorded easily and without additional cost. Scholars outside of the Boston area can provide presentations without travel and lodging costs, and events do not require overhead such as after-hours security and janitorial services.

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

5

Disadvantages

Technical complications and increased difficulties with registrant retention are the most significant challenges we faced in implementing online programming.

Web conferencing platforms do not require additional software or hardware, but they do necessitate a strong and dependable internet connection. In addition, because it is not possible to foresee or control for the hardware setups of all participants, running online programming requires anticipating a certain amount of technical troubleshooting and tolerance for unexpected obstacles. Each platform offers technical support via phone, but this solution is often not feasible for participants who attempt to address a problem in the middle of a session. Those implementing programming have to determine how hands-on they will be with participant technical support.

While ease of participation creates greater accessibility, the low cost and low commitment threshold for participants consistently results in high attrition rates. It is generally difficult to use registration numbers to accurately predict attendance or level of participation.

Case Study: The Global Literature Online Book Group

The Global Literature Online Book Group began in 2012 as a partnership between Harvard University's Committee on African Studies, Davis Center for Russian and Eurasian Studies, David Rockefeller Center for Latin American Studies, Alwaleed Bin Talal Islamic Studies Program, Center for Middle Eastern Studies, Reischauer Institute of Japanese Studies, and Asia Center. In its second year the Global Health Institute and South Asia Institute at Harvard also took part.

Each center chose a novel related to its region to pair with discussion questions, non-fiction reading, and an opportunity to engage in live discussion of the book with fellow educators, a related content expert and/or the book's author. The first fifteen educators to register for each program were given free copies of the book being discussed. Novels selected for the program are each embedded in a historical moment of political and social significance for the region in which they take place. Through literary texts and accompanying non-fiction readings, the Global Online Book Group is designed for participants to explore how knowledge of history and understanding of literature can mutually strengthen one another. Thematic questions with attention to metaphor and language choice (Examples: "What role do borders or boundaries play within this novel?" "What role do dreams and visions play within this novel?") are intended to help participants think more deeply about the ways in which these works of literature approach themes of regional context, revolution, family, and identity.

Examples:
- A discussion of Naguib Mahfouz's novel *Autumn Quail* paired with non-fiction readings

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

6

on the 1952 Free Officers Movement and the ouster of Mohammed Morsi facilitated by a Harvard Arabic language and literature preceptor and Middle East studies outreach staff.
- A discussion of the novel *The Dream Life of Sukhanov* paired with non-fiction readings on dissident Soviet artists facilitated by the author, Olga Grushin, and Russian and Eurasian studies outreach staff.

Over two years the program worked with over 200 participants from MA, ME, NH, CT, NJ, TX, MI, GA, FL, AR, UT, WI, MO, AK, IA, MD, D.C., HI, Spain, and Japan. In program evaluations 80% of respondents said they would use information from the program in their classrooms, 90% of respondents said they found program presentations useful for their teaching, and 92% of respondents said they would like to participate in a similar program in future.

Sample feedback via program evaluation:
- Fascinating presentations by scholars deepened my knowledge of the backgrounds of many of my students. Wonderfully diverse selection of books and readings.
- The two books that I read helped me refine my own reading of texts, affirming my understanding in some cases and also revealing of major gaps in my understanding of the book and the history/context.

To deepen engagement in its second year, the program added an asynchronous writing component in the form of a private program blog to which all registrants could post. The strengths of similar writing opportunities are described by Chris Dede, professor of learning technology at the Harvard Graduate School of Education in a 2009 interview with Education Week: "...one of the strengths of online professional development is that it gives the opportunity for reflection. In a face-to-face format, only one person can talk at a time, so a lot of people are silent. It's not necessarily an atmosphere of trust because, ideally, you're talking about things you don't do as well as you might, and yet there are a whole bunch of faces staring at you. You feel as though you're putting yourself on trial. Or you may want the chance to think carefully about something that's new to you, something that's transformative, before you really start developing a reaction to it. But online teacher professional development that includes an asynchronous component helps with that kind of reflection. Plus, the online format provides a layer of distance that helps people feel more willing to share things that are a little bit risky than they might in a face-to-face environment."

The program blog is a place for participants to respond to discussion prompts prior to the live session, and to share questions for their own. In program evaluations, 91% of respondents said the blog was "useful" or "very useful."

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

7

Case Study: Unearthing the Dead Sea Scrolls

Run in the fall of 2013, this blended program incorporated both on-campus and online learning opportunities focused on the religious, historical, scientific, and political significance of the Dead Sea Scrolls. The program included an on-campus workshop and museum site visit followed by two live, online extension sessions.

The terms "blended" or "hybrid" learning are used to describe a wide variety of programming or course models. In a review of literature on blended learning in a 2007 issue of *Blended Learning: Research Perspectives,* Vignare employs a general definition: "Blended courses integrate online with face-to-face instruction in a planned, pedagogically valuable manner, and do not just combine but trade-off face-to-face time with online activity, or vice versa." In its review of K-12 models, the InnoSight Institute's white paper "Classifying K-12 Blended Learning," describes multiple approaches to hybrid programming, including flipped classroom, group rotation, and individual rotation models.

Hybrid programming ultimately allows educators and OPD designers the opportunity to consider what type of learning is best suited to in-person vs. online engagement, and design invitations to learning that complement and mutually support one another. In an article titled "Blended Professional Development Emphasizes Differentiated Instruction," *Education Week* emphasizes this key component to technology-enabled learning literacy: "[T]eachers not only need to be proficient at integrating virtual experiences into the classroom, they must also be confident in why they're doing so."

In the case of "Unearthing the Dead Sea Scrolls," program design combined highly local resources, including a Harvard professor, Schusterman Center fellow, and Boston museum, with experts in geographically disparate locations, including the scrolls' leading digital imaging specialist in California, in order to introduce educators to multi-disciplinary perspectives on the significance of the scrolls. The in-person session provided an introductory lecture by a content expert, time for in-person discussion and workshopping of classroom applications and connections to the Common Core State Standards, and firsthand experience viewing scroll fragments at the Museum of Science, Boston.

Following this in-person programming, participants were given additional readings to prepare for more specialized approaches to this content, including an overview of technological advances used in reading the scrolls and the geopolitical context that informed cultural and material claims made to the scrolls. Time spent in person building a content framework, strengthening collegial networks, and engaging in observation of artifacts, scaffolded participants for later conversations from multiple disciplinary perspectives. Participating local educators were able to benefit from multiple learning opportunities without taking more than one professional day away from their classrooms and school communities.

Planning and Implementing a Webinar

As stated above, the strengths of OPD have the potential to support and amplify many goals for outreach and professional development, but solid implementation requires the ability to match program objectives to the strengths of the online medium. Professional development providers must consider the reasons for integrating an online component into their programming, and what tools will best match these motivations. When designing a live webinar, how will it be different from a pre-recorded lecture? How will it be different from a lesson plan posted online? Reflection on these questions and attention to participant engagement inform many of the guidelines and tips discussed below. The [Web Conferencing iSite](#) developed at the Harvard Graduate School of Education (HGSE) was a valuable resource for us when developing our approach to planning webinars. The framing of mindful use of interactive webinar features and scripting or storyboarding referenced below draws from this HGSE documentation of best practices.

Steps for planning a webinar at a Harvard NRC
- Identify goals and intended audience for program
- Identify speakers, facilitator, and any additional staff who will be present during the webinar
- Create a storyboard or script
- Market program to intended audience
- Communicate with participants: Send registration confirmation, diagnostic URL, agenda, and any discussion questions or pre-readings to participants
- Set up a time to test technology (audio and video) with speaker and any other staff
- Get any slides from speaker and test them in the virtual room to make sure all images appear clearly
- Brainstorm questions for presentation
- Send a day before or day-of reminder to participants

Questions to ask when planning a webinar
- How will an online format serve the goals of this program?
- How will this session be different from a recorded lecture? What kinds of interactivity will be built in? Will this be a discussion or a lecture with Q&A? Will there be any small group or break-out room discussion?
- What do you want participants to know or be able to do after the session?
- Who is the intended audience? Who might be able to participate who would not be able to attend an on-campus event or program? Will time zones affect when you choose to hold the webinar?
- What kinds of preparation will participants engage in before the session? How will this preparation help participants to engage with the session?

- Pre-reading or pre-viewing?
- Discussion questions for their consideration?
- Request to submit questions for the speaker?
- Resource page associated with this webinar?
- Will participants communicate using microphones, chat box, or both?
- What kind of information and preparation will participants receive about using the online forum?
- How many people will help to run the webinar?

Tips for Planning and Communication

Communication with participants

For Harvard NRC webinars, we generally provided a link to the classroom (or a link and password) only after participants have registered for a session. Occasionally, depending on the tone and audience, the link is posted publicly in the event announcement itself. Requiring registration allows greater control and some ability to gauge about participation numbers, while public posting potentially increases numbers by eliminating the "hurdle" of registration.

For longer, more involved programs like online seminars, "open hours" were held ahead of time in the web platform to allow participants to orient themselves to the virtual classroom in advance. For the majority of one-time sessions, only a link to the web platform diagnostic and technical support lines were provided. We always recommended that participants sign in to the session between 15 and 30 minutes prior to its start in order to test their audio.

Staffing the webinar

At Harvard NRCs we found it highly advisable to have at least two staff people present in the online classroom in addition to the featured speaker. At all times there should be one person who is facilitating (or "driving") the session, and one person who is looking out for technical issues and monitoring the chat box. The driver is responsible for opening the session, transitions between different parts of the session, prompting participants to engage in discussion, and calling on participants. The driver and back-up person might switch roles throughout the session.

Creating a storyboard or script

Webinars often involve multiple speakers and staff members, responsible for different portions, and online programming makes it more difficult to communicate via body language or eye contact, making it critical that all staff members understand clearly when they will be speaking and how they will transition from one part of the program to another. **See Appendix A for a sample storyboard.**

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

10

Questions to ask when creating a storyboard or script:
- Who will greet participants when they sign in to the room prior to the start of a session?
- How far in advance will you request that participants sign in?
- Who will welcome participants to the session at its start?
- Will participants introduce themselves before the start of the session? If so, will this be done via chat box, poll, or microphone?
- Who will introduce the speaker, if there is one?
- Who will monitor the chat box?
- Who will facilitate Q&A?
- Will the session make use of break-out rooms or occur in one large room?
- How will the session make use of the chat box? Will participants use it throughout the session, in response to specific prompts, or only when their microphone doesn't work? Will the participants "raise their hand" to ask a question?
- What interactive elements will be included throughout the session? (Response questions, drawing on the whiteboard, etc.)

Orienting speakers to the online platform

It is critical to test the web platform with any presenters, ideally at least two days prior to the session, in order to allow enough time for troubleshooting any problems that arise. Make sure they are on the same computer they will use for the session: troubleshooting issues with a work computer is of no use if they will be at home the evening of the session.

Test audio and video and review any platform functionality, such as the presentation space, that the speaker might be using. If the speaker will be using a PowerPoint or other images, request that these materials be sent at least one day in advance of the session so that they can be tested in the virtual classroom.

Let the speaker know how session facilitators will communicate with them during the session. On many web platforms it is possible to privately chat during the session, though speakers may prefer that all communication be verbal. Make sure speakers are aware that when they sign on, any participants already in the room will be able to hear them.

Review the session agenda and storyboard, particularly who will be opening the session and how Q&A will be handled. Speakers may be overwhelmed by the amount of visual information they see in the web conference interface. During Harvard NRC webinars, we typically told speakers not to worry about reading text in the chat box, and instead rely on staff facilitating the webinar to review any typed messages and repeat questions or comments verbally for the speaker.

Anyone who will be speaking during the webinar should be encouraged to practice at least once **out loud** while in the web platform. Even experienced speakers can be thrown off by an absence

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

11

of visuals cues from an audience. For this reason you may also want to ask the speaker if they prefer that one or more staff members remain on video while they present.

Timing

The vast majority of NRC webinars were held from 7:00–8:00pm EST or 7:00–8:30pm EST on a weeknight. At the conclusion of a year-long program, 70% of participants said this timing was convenient for them. Suggestions from the remaining 30% included "after school: 3-5pm," "weekend morning," and "after 8pm." While the majority of sessions were 1 hour long, increasing to 1.5 hours helped to balance time for presentation as well as discussion. In survey responses, we received several open responses saying that 1 hour did not always seem like enough time to answer participant questions.

Facilitation and discussion

In evaluations, many participants stated that they enjoyed the interactive nature of CMES webinars. The added obstacle of physical distance makes it critical to be intentional about designing sessions to engage participants. While the online medium can present challenges, the tools available in the virtual classroom can be used in the service of greater interactivity.

It is first important to decide if participants will be encouraged to primarily use microphones for communication. In our experience, most will default to using the easier option of the chat box unless instructed otherwise. There are advantages and disadvantages to either scenario: use of fewer microphones will likely result in fewer technical problems to troubleshoot, and questions typed into the chat box allow facilitators to summarize several similar questions at once, or point out a related theme as they converse with the speaker. But, a session conducted entirely through text may feel less engaged and more anonymous. If there will be a speaker, consider asking her what in format she would prefer to interact with participants. Most Harvard NRC sessions end up using a combination of mic and chat, depending on preference and technical abilities of the participants.

Scaffolding engagement

There are many ways to support and encourage participant engagement. Many web conferencing providers allow for the option to poll participants. Setting up anticipatory questions for participants to answer as soon as they arrive in the virtual classroom can help to gauge your audience and gather information for later discussion.

Examples:
- Informational (e.g. "Is this your first time reading a novel by Mahfouz?")
- Opinion-based (e.g. "What feelings were you left with upon finishing the article?")

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

12

Have a staff member in the room 30 minutes prior to the start of the session to informally welcome participants (it can be pleasant to also have related music playing during this time). Facilitators might test audio and chat as each participant arrives, and/or additionally use question prompts, such as asking all members to type the city from which they have signed on, directly before the start of the session to ensure everyone can use these tools.

To mitigate the feeling of anonymity and disconnection that can haunt online learning engagement, it is helpful to ask all participants to share a little bit about themselves, such as their location and the grade and subject that they teach. Often time is too short for this to be done verbally, but it can happen in the chat box or via the classroom's polling functionality or interactive whiteboard.

At the start of the session make communication expectations clear.

Examples:
- Requiring that all microphones be turned off when participants are not using them will cut down on background noise.
- Asking participants to use a "raise hand" icon, come up on video, or type in the chat box prior to talking with their microphones can cut down on people talking over one another.
- Decide if you would like participants to type any questions or observations into the chat box while the speaker is talking, or if you would prefer they hold these until the end of their remarks.

Asking participants to spend 5-10 minutes responding to a discussion question *prior* to the speaker's remarks can help to set a tone of engagement rather than lecture. A response-based question with no right answer helps to scaffold participation regardless of content-level knowledge.

Examples:
- "What words would you use to describe coverage of this topic in the news media you have seen or read?"
- "The author uses several metaphors for time throughout the novel. Which of these did you find the most compelling or useful for your own understanding of revolutionary change in this region?"

The chat box can be used to integrate opportunities for short inquiry- or observation-based participation throughout the session. This allows facilitators to quickly gather and aggregate ideas from participants without pausing to hear from each person verbally. The facilitator can then read these aloud, noting patterns.

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

13

Examples:
- Observation: Have participants spend 30 seconds looking closely at a piece of art or other visual artifact. Ask participants to type the three visual elements that most stand out to them.
- Creating definitions: Identify key terms related to session content such as "technology" or "artifact" and ask participants to type the words and phrases that first come to mind when they hear this word.

Transition into a formal question and answer period following a presentation can be slightly more challenging in an online forum than in person. Silence can feel more awkward, and participants may be nervous about using their microphone in addition being nervous about asking a question. It is often helpful to announce that the session is transitioning into question and answer, and then begin with a question posed by the facilitator to give participants time to gather their thoughts and decide which medium they will use to engage. As with any live program, it is very helpful for facilitators to have multiple questions ready for the speaker in case participants are quiet.

Questions typed into the chat box allow facilitators to summarize several similar questions at once, or point out a related theme as they converse with the speaker.

After the webinar: asynchronous resources
The majority of webinar programming offered by Harvard CMES and other NRCs are recorded, with the exception of seminar-style, discussion-based programs. As with any programming, this is done at the discretion of speakers and must be announced to participants. Participants who do not wish to be recorded are encouraged to make comments and ask questions solely via the chat box. For robust programming that includes pre-reading or viewing materials and discussion prompts, these materials can be posted online along with the recorded online meeting for the benefit of educators who were not able to attend the live program.

Software
Harvard NRCs shared a web conferencing license, resulting in a cost of roughly $200 annually to each center for unlimited use of virtual classroom space. Other schools and entities such as the Harvard Division of Continuing Education and the Harvard Graduate School of Education have their own licenses. Many use AdobeConnect or Blackboard Collaborate; other choices include WebEx, Via from SVI eSolutions, and Big Blue Button.

Many web conferencing platforms have similar features, such as the ability to feature simultaneous live video, have breakout sessions, and use a chat box.

Technical requirements and troubleshooting

Technical troubleshooting varies with different web conferencing platforms and individual users' hardware and software. Tips below are general guidelines.

Troubleshooting tips:

- Most web conferencing platforms supply a diagnostic link that lets participants test that their computer is running the necessary software and has a viable internet connection. Make sure this is provided early.
- Most web conferencing platforms have an audio wizard that participants can run once they are in the virtual meeting space. Make sure all speakers and participants run through the wizard and follow its prompts.
- If using an external headset and microphone:
    - Make sure the device is selected both within the audio wizard and the computer's system preferences.
    - Make sure the external headset is plugged in before signing into the classroom.
    - Make sure that mute is not selected on the external headset, and that the computer's volume is turned up.
- Sign out and sign back in using a different web browser. There can be many small bugs within specific browsers, and switching can often ameliorate issues with audio.
- If a speaker or presenter using video and audio is freezing, have them turn off their video feed and use only audio.
- Some web conferencing platforms may require participants to give permission for audio or video to connect. Have participants check for any popup windows that may be hidden behind other windows or blocked by a pop-up blocker.
- If participants or speakers are not using an external headset, you may hear an echo or feedback in the room. This is caused by their microphone picking up audio from the room, in the same way that a call to a radio show may create an echo if the caller does not turn their radio down. Make sure that all participants keep their microphones off when they are not being used. As a facilitator in the room, you most likely are also able to turn their microphones off yourself.
- If using a wireless connection, ask others on the network to limit their activity online. Close out of all other applications, such as Spotify or iTunes. Make sure the computer is positioned as close as possible to the router.
- Most web conferencing platforms allow you to select a connection speed for the room. During a large meeting with many different connection speeds, set the room's connection to its lowest or second-lowest setting. You may also want to lower video quality settings within the classroom. [*Note: If you are recording the session, note that lowering connection speed or video quality may degrade the quality of your recording. Make sure to test this in advance.*]
- Web platforms running through Java or Flash can build up cookies with frequent use that

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

15

can cause problems with audio and video. Regularly clear your cache of cookies to prevent this.

Further Resources

Harvard Graduate School of Education Web Conferencing

EdTech Leaders Online. (2012). Ten Tips for Effective Online Facilitation.

New Designs for Connected Learning and Teaching

International Association on K-12 Online Learning (iNACOL). (2011). National Standards for Quality Online Teaching

References

U.S. Department of Education, Office of Educational Technology. (2010). Transforming American Education: Learning Powered by Technology - National Education Technology Plan 2010, Washington D.C.

Committee on Enhancing Professional Development for Teachers, National Academies Teacher Advisory Council, National Research Council. (2007). Enhancing Professional Development for Teachers: Potential Uses of Information Technology, Report of a Workshop

Rebora, A. (2009). The Changing Landscape of Teacher Learning, Education Week Teacher Professional Development Sourcebook, Vol. 3, Issue 1, Page 18-21

Flanagan, R. (2012). Blended PD Emphasizes Differentiated Instruction, EdWeek

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

16

Appendix A: Sample Storyboard

When?	What?	Screen Nodes	On Mic	On Cam
Pre-Webinar	Add any poll questions to the room	Center Welcome Page		
6:40–7:00	Greet participants and help them test audio	Welcome Page Poll questions	EN, AM	EN, AM
6:58	Make sure everyone can hear, review procedure for mics on / mics off / hand raising. **START RECORDING**	Welcome Page Poll questions	EN, AM	EN, AM
7:00	Officially welcome participants to the session	Welcome Page	EN	EN, AM
	Introduce opening discussion question	Discussion Question	EN	EN, AM
	Monitor responses to discussion question	Discussion Question	EN, AM	EN, AM
7:10	Introduce speaker	Speaker Title	EN	EN, AM, WB
7:10–7:30	Comments from speaker	Speaker PPT	WB	WB
7:30	Open Q&A	Speaker PPT	EN	WB, EN, AM
	Ask the first question (unless a participant has already indicated that they have one)	Speaker PPT	EN, AM	WB, EN, AM
	Facilitate Q&A (monitor chat box, call on people)	Speaker PPT	EN, AM	WB, EN, AM
8:00	Invite participants to respond to evaluation	Slide with evaluation info Link in chat box!	EN	WB, EN, AM
	Thank everyone, promote upcoming programming	Closing slide: Next book title, date	EN	WB, EN, AM

Implementing Live Online Professional Development for K-12 Educators
Center for Middle Eastern Studies, Harvard University

17