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We Can't Hear You—You're on Mute: Findings from a Review of ECB Practice Online

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Background: In her presidential address to the American Evaluation Association (AEA) in 2007, Hallie Preskill (2008) highlighted the potential role of technology to promote learning from evaluation, noting the increased use of computers, the Internet, and social media as untapped ways to facilitate evaluation. More than ten years later in the context of the COVID-19 pandemic, evaluators and evaluation capacity building (ECB) practitioners found themselves needing to shift to online modalities to conduct evaluation and build capacity. The COVID-19 pandemic, technological advancements, and the rapid shift to remote work have changed our way of working (Gratton, 2021; Kane et al., 2021). Building evaluation capacity is no exception to this trend.

Purpose: This study aimed to examine ways that practitioners have built evaluation capacity online or have used technology to do so, to capture lessons learned that can be applied in a COVID and post-normal context.

Setting: Findings from this study can be applied in online contexts for developing evaluation capacity.

Intervention: Not applicable.

Research Design: The study design consisted of a rapid review of the ECB literature published from 2000 to 2019 in eight academic journals focused on evaluation research and practice.

Data Collection and Analysis: Twenty-nine case applications of ECB practice that: 1) mentioned use of technology as a strategy for building evaluation capacity or 2) noted that at least one component of the ECB intervention was carried out online or virtually were reviewed for this study. Quantitative data were analyzed via descriptive statistics. Qualitative data were coded in MAXQDA using conventional content analysis (Hsieh & Shannon, 2005).

Findings: More diverse online interventions have increased over time. Less than half (45%) of ECB interventions made use of both asynchronous and synchronous strategies for building capacity while more than one-third (38%) made use of asynchronous only strategies. Key barriers to implementing ECB strategies online included lack of social connections to other participants during the capacity building activity, technical malfunctions, lack of access to or familiarity with the technology in use, and limited resources for carrying out evaluation activities. Key facilitators for enhancing implementation included facilitating participant interaction and relationship-building both on and off-line, tailoring ECB activities to participant work contexts, and providing tutorials for accessing and using the technology in play.

Keywords: *evaluation capacity building; research on evaluation; technology in evaluation capacity building; online evaluation capacity building; COVID-19 pandemic*

Introduction

In her presidential address to the American Evaluation Association (AEA) in 2007, Hallie Preskill (2008) highlighted the potential role of technology to promote learning from evaluation, noting the increased use of computers, the Internet, and social media as untapped ways to facilitate evaluation. More than 10 years later, in the context of the COVID-19 pandemic, evaluators and evaluation capacity building (ECB) practitioners found themselves needing to shift to online modalities to conduct evaluation and build capacity. The COVID-19 pandemic, technological advancements, and the rapid shift to remote work have changed our way of working (Gratton, 2021; Kane et al., 2021). Building evaluation capacity is no exception to this trend.

ECB is

> a context-dependent, intentional action system of guided processes and practices for bringing about and sustaining a state of affairs in which quality program evaluation and its appropriate uses are ordinary and ongoing practices within and/or between one or more organizations/programs/sites. (Stockdill et al., 2002, p. 8)

In other words, ECB is a process designed to help ensure that high-quality evaluation is conducted and the findings are used within a program or organization. Strategies used to build evaluation capacity with non-evaluators can include training or workshops, coaching or mentoring, technical assistance, and participation in an evaluation (Bourgeois et al., 2023). ECB can take place in person or virtually, depending on the organization's context and needs.

While the use of technology in evaluation is not new, several studies have been conducted over the past two decades that explore its role and application. A volume of *New Directions for Evaluation* published in 1999 (Gay & Bennington) explored the use of information technology in evaluation. This volume featured discussions by various authors on opportunities and implications of utilizing new technology for data collection and analysis. For example, Watt (1999) discussed how the Internet could facilitate data collection through email questionnaires, online survey systems, and online text-based interviews and focus groups. Additionally, Bennington et al. (1999) shared insights on the use of multimedia records such as videos as valid data sources and the utilization of technology for analyzing such multimedia data. More recently, Jamieson and Azzam (2012) examined the use of various technological tools (e.g., search engines, survey development tools, and digital data collection tools) among evaluators. At that time, many evaluators had already incorporated analytical tools such as relational databases, online surveys, and qualitative software packages into their practice as new developments arose (Jamieson & Azzam, 2012).

Similarly, several studies examined the use of technology in evaluation management practices, such as the development of web-based data management systems for federal grantees (Mulvey et al., 2005); the use of HTML-compliant email surveys to access hidden populations in health evaluation contexts (Duncan et al., 2003); and the incorporation of online surveys, digital transcribing software, and videoconferencing in education evaluation (Fetterman, 2002). Furthermore, there has been an increase in discussions regarding the use of technology in humanitarian evaluation (Dette et al., 2016; Scharbatke-Church & Patel, 2016). Scharbatke-Church and Patel provide a technology matrix outlining various types of technologies (e.g., media, software, and hardware) and their role in different phases of an evaluation (e.g., evaluation design and implementation, evaluation use, and management).

While previous studies focused on the role and use of technology in evaluation practice, Galen and Grodzicki (2011) argued over a decade ago that rapid technological advancements would expand the role of evaluators, who would become "knowledge producers" and "knowledge disseminators," noting the role of ECB in developing and managing organizational knowledge transfer and learning. They called on evaluators to anticipate the impact of technological innovation on the field and adapt to the changes instigated by the use of new technologies. In line with this perspective, the increased use of video conferencing platforms such as Skype and Zoom and collaborative workspace platforms such as Dropbox, the Google suite, and Slack have revolutionized not only the way we work but the way we communicate and collaborate virtually, particularly during the COVID-19 pandemic. Certainly, these technological platforms have shaped the way we conduct evaluation, catapulting evaluators into a new era of remote stakeholder engagement and virtual data collection. It is likely that the pandemic has also shaped evaluator approaches to building evaluation capacity.

These developments suggest that ECB practitioners should be prepared to pivot along with changes in technology and ways of working to ensure they can effectively build capacity with

individuals and organizations, whether their interactions take place online or in person. We were interested in examining ways that practitioners have built evaluation capacity online or have used technology to do so, to capture lessons learned that can be applied in a COVID and post-normal context. More specifically, our aim was to explore examples in the published literature of such strategies to harvest insights for future work in this area. The following research questions guided the study:

- What online ECB practices or strategies currently exist in the ECB literature?
- What are the barriers and facilitators associated with implementing these ECB strategies?
- What lessons learned have practitioners shared about implementing online ECB strategies?
- How can the field apply these strategies in a post-normal context given the COVID-19 pandemic?

To answer these questions, we conducted a rapid review of the ECB literature. We describe our methodological approach next, followed by key findings. We detail the previous use of online strategies in the ECB literature, along with barriers to and facilitators of implementation. We end by discussing lessons learned, describing implications for practitioners, and suggesting other fields of practice we may look to for further learning.

Methods

We reviewed a subset of articles from an integrative review conducted on the ECB literature published between 2000 and 2019 in eight academic journals focused on evaluation research and practice (Bourgeois et al., 2023). The description of the method for including and excluding articles on ECB in the integrative review is further described in Bourgeois et al. (2023). Seventy-three of the articles in the integrative review were case applications of ECB interventions and were used as part of our rapid review. A rapid review is "a form of knowledge synthesis in which components of the systematic review process are simplified or omitted to produce information in a timely manner" (Tricco et al., 2015, p. 2). Such a review is often used to address a practice question related to a single topic (Khangura et al., 2012). For this study, we included case applications that (1) mentioned use of technology as a strategy for building evaluation capacity or (2) noted that at least one component of the ECB intervention was carried out online or virtually. This resulted in 39 articles. Upon further review, we eliminated an additional 9 articles that did not explicitly describe use of technology or an online component for building capacity. This resulted in 30 articles, representing 29 cases, for inclusion in this study (2 articles described the same case application).

Castleman and Cho extracted data from each article using an Excel spreadsheet containing quantitative and qualitative variables. Quantitative data were analyzed via descriptive statistics. Qualitative data were coded in MAXQDA using conventional content analysis (Hsieh & Shannon, 2005), in which the data were read and keywords were used to generate codes. Castleman developed a draft codebook and applied it to approximately one quarter of the articles (i.e., seven articles). Cho independently coded the same seven articles using the draft codebook. The two researchers met to resolve discrepancies via mutual consensus and to further refine the codebook. After the codebook was finalized, Castleman worked independently to finish coding the remaining articles.

Qualitative data, including barriers, facilitators, and lessons learned, were coded if they specifically related to the online component or technology used for capacity building. We defined barriers as factors that inhibited implementation or adoption of the ECB intervention. Conversely, we defined facilitators as factors that contributed to the successful implementation, adoption, or use of the ECB intervention with intended audiences. We did not code barriers, facilitators, and lessons learned that related to (1) the ECB intervention in general (rather than its specific online application), (2) components of ECB interventions that were not conducted online, or (3) ECB interventions that did not make use of technology. Any questions that arose during the data analysis process were discussed with the larger team for joint decision-making.

Findings

We first provide an overview of ECB interventions that were implemented online or involved the use of technology, along with an overview of general trends over time. Then we provide four case examples that illustrate how technology was used to build evaluation capacity in different organizations. We end by examining barriers to and facilitators of implementing ECB interventions using technology, based on the articles reviewed, and provide a summary of lessons learned.

In the following section, we report our findings for each of the four research questions. Note that we

collectively refer to the ECB interventions, strategies, and components that were implemented online or otherwise made use of technology as "ECB online practice" from this point forward.

Table 1. Number of Articles on ECB Publications With Online Components

Publication year	Articles with ECB online/technology components (*N* = 30)
2000 – 2004	16.7% (*n* = 5)
2005 – 2009	26.7% (*n* = 8)
2010 – 2014	26.7% (*n* = 8)
2015 – 2019	30.0% (*n* = 9)

Note. Thirty articles were reviewed, representing twenty-nine cases (as two articles described the same case application).

What Online ECB Practices Currently Exist in the ECB Literature?

ECB practices have consistently included online components in the last two decades. For the most part, the number of articles describing ECB interventions with online components remained relatively stable from 2000 to 2019 with a slight increase during this time period (Table 1).

Types of ECB Online Components Used. The online ECB practices in the 29 case applications reviewed employed nine main technological mechanisms or tools: email, database/data repository, telephone, online/web-based materials, teleconference, video conference, web-based learning tools, webinar, online training/workshop. They also employed various other practices, which we categorized as "other." All are described in Table 2.

Table 2. Online ECB Components Classification

ECB component	Definition	Cases of ECB online practice (*N* = 29)
Email	This includes explicit mentions of using email as an ECB tool (e.g., providing coaching via email or conducting email consultations).	34% (*n* = 10)
Database / data repository	These ECB practices aim to create a database or data repository and build stakeholders' capacity for database use, data analysis, data interpretation, and production of reports based on the database / data repository.	28% (*n* = 8)
Telephone	These are ECB practices that explicitly mention using the telephone as an ECB tool to provide one-on-one follow-up consultations or coaching after training.	24% (*n* = 7)
Online/web-based materials	These ECB practices intend to develop evaluation materials that are available on the web. Evaluation materials may include evaluation toolkits, instructional resources, or publications.	21% (*n* = 6)
Teleconference	These ECB practices use teleconferences to gather stakeholders from different locations for technical assistance, mentoring, collaboration, or evaluation knowledge sharing.	21% (*n* = 6)
Video conference	These ECB practices use online technology to provide technical support and disseminate or share lessons learned in synchronous format. This may include web conferences, webcasts, or Skype/Zoom meetings.	17% (*n* = 5)
Web-based learning tools	These ECB practices provide online learning platforms that contain evaluation learning content and resources. These practices are mostly asynchronous (participants can use the materials to learn on their schedule).	17% (*n* = 5)
Webinar	Webinars include synchronous online events or educational seminars designed to share evaluation materials, including evaluation approaches, data collection, or tools, and provide a space to receive technical support. Webinars may focus more on delivering content and may have more one-way communication than video conferences.	14% (*n* = 4)
Online training/workshop	These ECB practices provide training or workshops via an online teaching platform. These practices are mostly synchronous, allowing participants to interact with evaluators or ECB practitioners.	14% (*n* = 4)
Other	These practices included audio/video recordings, report submission systems, remote briefing sessions, and virtual technical support.	24% (*n* = 7)

Email, telephone, and databases were the first technological tools to be used in ECB interventions and were used throughout the period from 2000 to 2019. Email and other technological tools are generally offered alongside training and webinars to provide technical assistance and coaching on ECB projects (Brandon & Higa, 2004; Compton et al., 2008; Campbell et al., 2015; Zhao et al., 2017). For example, Brandon and Higa provided continuing technical support via email and telephone after in-person professional development workshops on evaluation.

Online training and webinars appeared in the ECB literature in the late 2000s. This development reflects the broader context of online learning and also shares challenges similar to those found in other educational spheres. For example, early online educational programs encountered difficulties related to a lack of understanding of online pedagogy, limited faculty buy-in, and insufficient institutional support (Kentnor, 2015). Online education programs were improved over time to incorporate synchronous and asynchronous options, along with other interactive tools, such as

discussion boards, chat boxes, and videoconferencing (Palvia et al., 2018). These improvements also made their way into online ECB training programs; for example, Campbell et al. (2015) developed a series of three web-based training sessions to build the evaluation capacity of program staff situated in multiple project sites. The trainings, which took place in an online conferencing platform, focused on developing an evaluation plan and collecting and analyzing data. Webinars have mainly been used alongside other mechanisms or tools, such as video conferences, teleconferences, or databases / data repositories (Goodyear, 2011; Sundar et al., 2010; Satterlund et al., 2013). For example, Goodyear described how live webcasts, teleconferences, and an online database were used to build multisite project evaluators' capacity, share evaluation experiences across project sites, and communicate about data collection tools, success stories, and challenges.

Types of Organizations Using ECB Online Strategies. Online ECB practices were used in various sectors in the case applications reviewed (Table 3). Most online ECB strategies were used in local settings, including schools (28%, $n = 8$), nongovernmental organizations (NGOs; 24%, $n = 7$), community-based organizations (CBOs; 17%, $n = 5$), and even local governments (17%, $n = 5$). Fewer online ECB practices were identified in state (14%, $n = 4$) and federal government organizations (10%, $n = 3$). It is important to note that this result may indicate a publication bias, as federal and state governments may be less likely than individuals in other sectors to publish their work in peer-reviewed journals. Additionally, the allocation of funding by federal and state agencies to local governments and CBOs may explain the prevalence of ECB practice at the local and community levels. While ECB cases targeting schools, NGOs, and CBOs employed various online components, from emails and teleconferences to online training, webinars, and video conferences, ECB cases in state and federal government organizations mainly focused on online training and data repositories. For instance, Hilton and Libretto (2017) shared a case of ECB supporting the development of a data repository for a military treatment facility, and Satterlund et al. (2013) used different online ECB strategies, including web-based materials, webinars, and an online archive of data collection instruments to build the capacity of local health agencies and CBOs operating tobacco control programs.

Table 3. Types of Organizations

Type of organization	Frequency of mention
School	28% ($n = 8$)
NGO	24% ($n = 7$)
CBO	17% ($n = 5$)
Local government	17% ($n = 5$)
State government	14% ($n = 4$)
Federal government	10% ($n = 3$)

Note. Eight articles discussed the application of an online ECB strategy in more than one type of organization.

Use of ECB Online Components and ECB Modality. As discussed previously, nearly all of the ECB cases reviewed used multiple online ECB strategies (93%, $n = 27$). The strategies used complemented each other. For example, Sundar et al. (2011) provided evaluation training in person to child and youth mental health service providers, followed by continued support through teleconferencing and videoconferencing. The authors also created an online learning tool that provided guidance on how to plan, conduct, and use an evaluation, accompanied by live webinars that facilitated interaction and knowledge sharing among participants. The prevalence of cases using a multicomponent approach suggest that this is a popular mode of ECB delivery.

Taking into account only *online* ECB activities, about one third of cases (38%, $n = 11$) applied only asynchronous activities, while nearly half (45%, $n = 15$) employed both synchronous (simultaneous) and asynchronous (nonsimultaneous) components (Table 4). For example, Rorrer (2016) employed only an asynchronous technological ECB activity, developing an online evaluation toolkit.

However, the proportion of synchronous versus asynchronous activities is different if we consider *all* ECB practices associated with each case (i.e., not only online practices). For example, in addition to the asynchronous technological activity noted

above, Rorrer's overall ECB practice included face-to-face (and, therefore, synchronous) ECB activities. Considering all ECB practices, most cases (86%, $n = 25$) adopted both synchronous and asynchronous ECB strategies, whereas only one ECB case used only an asynchronous ECB component. Mackay (2002) described how the World Bank created an ECB website to disseminate ECB materials (an asynchronous ECB component) and provided synchronous training and seminars. Similarly, Tang (2002) developed a data management system (i.e., Online Tobacco Information System) for local health departments involved in a large statewide tobacco control program and also conducted in-person training and technical assistance.

Table 4. ECB Modalities

	Modality(ies) for online ECB components	Modality(ies) for overall ECB components
Both	45% (*n* = 13)	86% (*n* = 25)
Asynchronous	38% (*n* = 11)	3% (*n* = 1)
Synchronous	7% (*n* = 2)	7% (*n* = 2)
Unclear	10% (*n* = 3)	3% (*n* = 1)

In summary, online ECB interventions have historically made use of email, databases, online trainings, and webinars. ECB online strategies have been implemented in various sectors including schools, NGOs, CBOs, and government, and tend to make use of multiple online or technological components to build evaluation capacity. Finally, a number of online ECB interventions have employed both synchronous and asynchronous online activities.

The following section presents specific examples of online ECB practices. Four studies representing key online ECB practices are provided to offer detailed insights into the utilization of online ECB strategies, including evaluation training, materials, and database management systems. While the lessons learned from these examples can contribute to our understanding of the application of ECB approaches in the post-COVID-19 era, it is important to acknowledge that these cases are slightly dated. Additional online ECB strategies may have emerged during the pandemic and not yet have made it "into print."

Case Examples of Online ECB Interventions.

Web-Based Learning Tools. In addition to face-to-face evaluation support, Sundar et al. (2010) provided multicomponent evaluation training to children-and-youth mental health organizations located in Ontario, Canada, via tele- and videoconferencing, interactive webinars, and online learning modules. The ECB intervention was provided by the Ontario Center of Excellence for Children and Youth Mental Health, funded by the Ministry of Children and Youth Services. The target audience for ECB encompassed all program staff, including frontline service providers. One of the barriers identified in this intervention was a lack of technological literacy and discomfort using computers among the population of interest, given that these service providers were more accustomed to face-to-face contact with their clients. Technical problems using online tools (e.g., sound interference) created an additional barrier, which was overcome by having staff members who could respond rapidly with technical support. Lastly, participants cited the lack of in-person human contact as a barrier. They desired more engagement with other participants and opportunities to interact. The authors noted that future efforts would include methods for increasing discussion and interactive activities. However, participants also noted that use of interactive examples in online learning modules was effective in solidifying learning and found that the opportunities to share experiences and learn from other participants, while limited, were facilitating factors in developing their evaluation capacity. The authors found during the evaluation of this ECB intervention that use of online learning tools increased access to evaluation training resources for more people and was more cost-effective than in-person training.

Online Evaluation Toolkit. Rorrer (2016) described the development of an online toolkit that provided evaluation resources and tools to undergraduate computer, information sciences, and engineering (CISE) university programs. This online ECB practice primarily focused on project leaders and principal investigators involved in program implementation. To address challenges

associated with multisite project evaluations, the toolkit aimed to provide resources for individual sites at the local level as well as tools for aggregating outcomes at the national level. These included instructional materials on evaluation practice, a list of evaluation tools, and a validated outcome instrument. One of the perceived facilitators of using the online toolkit was that the evaluator engaged the community to collaboratively develop the toolkit, which enhanced its perceived relevance and utility. Additionally, presenting simple instructions on how to use the toolkit via online video tutorials was identified as a facilitating factor for increased uptake among CISE programs. The ECB users appreciated the accessibility, cost-effectiveness, and utility of the toolkit for conducting evaluation.

Online Evaluation Course. Fleming and Easton (2010) describe the development of an online course titled Applied Environmental Education Program Evaluation, which sought to build the capacity of environmental educators to design and implement evaluations of their programs. The course was offered through a partnership between the University of Wisconsin–Stevens Point and the National Conservation Training Center under the U.S. Fish and Wildlife Service. It specifically targeted environmental educators, natural resource professionals, and students. The 12-week course provided an introduction to program evaluation, logic models, and evaluation planning. It was offered through a web-based platform that included an asynchronous discussion board and a synchronous chat function to enhance participant engagement. The main barrier cited by the authors was a high attrition rate, due to participants feeling uncomfortable with the online format and the lack of a social learning environment that would facilitate learner engagement. To mitigate these challenges, the instructors introduced new activities to increase student engagement, such as sending instructor-initiated emails prior to the start of the course, hosting virtual office hours, encouraging use of the chat feature during the synchronous portions of the course, using discussion boards and group activities, creating a gallery where students could post relevant evaluation tools, and creating opportunities to provide peer feedback on coursework. In addition, the instructors had students use their own programs as the subject of course assignments so that participants could apply their learning to their particular evaluation contexts. Outcomes of participating in the course included increased knowledge and confidence for conducting evaluation among participants. The authors also reported an increased demand for evaluation in a few organizations that provided scholarships and encouraged their environmental educators to participate in evaluation professional development activities.

Electronic Data Management System. Nelson and Eddy (2008) described how a data management system was implemented in California school districts to facilitate access to and use of data. Middle school teachers were trained to use the computer assessment program to generate reports of disaggregated state and local student assessment data to assist in lesson planning by identifying areas of strength and weakness. However, learning to use the system was a challenge for teachers, and the authors also observed problems related to the data-entry scanners. However, over time teachers became more comfortable with the data management system, even creating their own classroom tests using the software. Moreover, teachers were gradually included in the data analysis process, which enabled them not only to learn and perform their own data analysis, but also to get involved in explaining the results to parents and students. The authors concluded that building evaluation capacity is a long-term process.

The four case applications described various online ECB interventions, including web-based learning tools, an online evaluation toolkit, an online evaluation course, and an electronic data management system. Challenges in implementing the online ECB interventions included people's lack of comfort using technology, perceived lack of human contact in an online environment, and technical problems related to use of new technology. These challenges were mitigated by providing instructions and one-on-one technical support, promoting increased interactive learning online, developing online tools collaboratively, and allowing time for people to feel more comfortable using new technology.

What Are the Barriers and Facilitators Associated With Implementing ECB Strategies?

Barriers to Implementation. Of the 29 case applications that implemented online ECB interventions, only eight articles mentioned barriers. Key barriers to online or technology components for ECB were concentrated in three main areas: (1) technological environment, (2) individual, and (3) organizational. Technological environment barriers include those related to the

technology (i.e., technological malfunctions) or to the online format itself. Individual barriers result from an individual's level of access to technology and level of comfort with the technology in use. Organizational barriers are factors within an organization that prevent the use or adoption of online ECB practices.

Several barriers to implementing online ECB were related to the nature of the online environment or the use of technology. The most frequently mentioned technological challenges included a lack of social connections to other participants in the capacity-building activity given its online nature (Anderson et al., 2012; Campbell et al., 2015; Fleming & Easton, 2010; Sundar et al., 2010; Table 5). In addition, technical issues (Anderson et al., 2012; Sundar et al., 2010) as well as challenges related to engaging participants across geographic areas and time zones (Campbell et al., 2015) were cited as barriers. High attrition rates due to discomfort with the online format (Fleming & Easton, 2010) and lack of instructional guides on how to use electronic resources were also observed as barriers (Rorrer, 2016).

Table 5. Technological Barriers to Implementing Online ECB Interventions

	Lack of social connectedness	Technical problems	Time/distance dispersion	High attrition rates	Lack of instructional guides
Anderson et al., 2012	x	x			
Campbell et al., 2015	x		x		
Fleming & Easton, 2010	x			x	
Rorrer, 2016					x
Sundar et al., 2010	x	x			

Individual barriers were related to individual access or familiarity with technology (Table 6). These were mostly related to individuals' lack of access to technology (e.g., lack of home computers, limited access to the Internet; Anderson et al., 2012) or lack of familiarity with the technology in use (Anderson et al., 2012; Nelson & Eddy, 2008).

Table 6. Individual Barriers to Implementing Online ECB Interventions

	Lack of access to technology	Lack of technology literacy/ comfort
Anderson et al., 2012	x	
Fleming & Easton, 2010	x	x
Nelson & Eddy, 2008		x
Sundar et al., 2010		x

At an organizational level, challenges related to staffing, time, and financial resources were cited (Table 7). These barriers are typical of ECB interventions regardless of their delivery mode (Labin et al., 2012). Limited budget and staffing to carry out evaluation tasks such as data collection and entry, cutbacks to resources dedicated to evaluation, turnover of trained staff, and lack of continuing education opportunities for new staff were cited as challenges for the sustainability of capacity-building interventions using technology (Hilton & Libretto, 2017; Mayberry et al., 2009). Lack of time for evaluation given other job responsibilities and evaluation not being an organizational priority were also cited as important barriers (Fleming & Easton, 2010; Hilton & Libretto, 2017).

Table 7. Organizational Barriers to Implementing Online ECB Interventions

	Limited budget & staffing	Turnover of trained staff	Lack of continuing education	Lack of time for evaluation	Evaluation not a priority
Fleming & Easton, 2010				x	x
Hilton & Libretto, 2017	x		x	x	
Mayberry et al., 2009		x			

Facilitators of Implementation. Implementing ECB interventions online or via technology was facilitated by (1) factors related to relationships and interaction among participants and (2) the content and modality of interventions. The most frequently cited facilitator was the promotion and maintenance of ongoing communication and interaction among participants and evaluation capacity builders (Campbell et al., 2015; Fleming & Easton, 2010; Gibson & Robichaud, 2020; Naccarella et al., 2007; Rorrer, 2016; Table 8). This included communicating via email, phone calls, and videoconferencing (Gibson & Robichaud, 2020); creating a social online learning environment where participants could share experiences and ideas via discussion boards and group activities (Fleming & Easton, 2010); and ensuring that the evaluation team was introduced to new staff to onboard them to evaluation activities (Lachance et al., 2019). Involving stakeholders in the ECB process and allowing participants to learn from each other was another facilitator (Fleming & Easton, 2010; Gibson & Robichaud, 2020; Nelson & Eddy, 2008; Rorrer, 2016; Satterlund et al., 2013; Sundar et al., 2010).

Table 8. Interaction-Related Facilitators of Implementing Online Interventions

	Facilitating relationship-building/ communication	Involving stakeholders
Campbell et al., 2015	x	
Fleming & Easton, 2010	x	x
Gibson & Robichaud, 2020	x	x
Naccarella et al., 2007	x	
Nelson & Eddy, 2008		x
Rorrer, 2016	x	x
Sundar et al., 2011		x
Satterlund et al., 2013		x

In addition to facilitating interaction and relationship-building, the actual content and modality of the online ECB intervention were highlighted as important factors (Table 9). Online interventions that were engaging and interactive and encouraged sharing of experiences or resources between participants were well-received, whether synchronous or asynchronous (Fleming & Easton, 2010; Gibson & Robichaud, 2020; Lachance et al., 2019; Sundar et al., 2010). Adapting content and activities to be relevant to participants' work or their local context was another facilitating factor (Fleming & Easton, 2010; Mackay, 2002; Naccarella et al., 2007; Rorrer, 2016; Satterlund et al., 2013). Lastly, providing participants with instructions, tutorials, or demonstrations of the technology so that they became familiar and comfortable using it was identified as an important facilitator (Fleming & Easton, 2010; Rorrer, 2016).

Table 9. Content-Related Facilitators of Implementing Online ECB Interventions

	Use of engaging activities	Use of relevant content/activities	Providing instructions
Fleming & Easton, 2010	x	x	x
Gibson & Robichaud, 2020	x		
Lachance et al., 2019	x		
Mackay, 2002		x	
Naccarella et al., 2007		x	
Satterlund et al., 2013		x	
Sundar et al., 2011	x		
Rorrer, 2016		x	x

What Lessons Have Practitioners Shared About Implementing Online ECB Strategies?

In the articles reviewed, key lessons learned for implementing ECB interventions using technology included (1) fostering online interaction and communication, (2) allowing participants time to familiarize themselves with the technology, (3) complementing online ECB components with face-to-face activities, and (4) tailoring online ECB interventions to local contexts. Although some of these lessons are also applicable to face-to-face ECB interventions, they provide insights for ensuring the success of online evaluation capacity-building efforts.

Fostering interaction and communication among participants is vital to success. Several cases noted the importance of including engaging activities where participants can interact with the evaluation capacity builders and each other. Interventions where the ECB practitioner initiated and maintained communication helped to foster relationships, reduce attrition, and overcome time/distance challenges (Fleming & Easton, 2010; Naccarella et al., 2007). Use of activities where participants shared experiences or resources or engaged with each other were also highlighted as successful for online approaches to capacity building (Campbell et al., 2015; Fleming & Easton, 2010; Naccarella et al., 2007).

Allow Time and Ways for Participants to Get Familiar with the Technology. Two cases referenced the need to allow participants ways to get comfortable with the technology in use, particularly if they were unfamiliar with it, as this had an effect on sustained participation in the capacity-building activity and continued use after the intervention was over (Fleming & Easton, 2010; Nelson & Eddy, 2008). In one case, the authors noted high attrition rates for an online course in part because students felt uncomfortable with the online format (Fleming & Easton, 2010). In another case example, teachers using an online data management system to analyze student data were initially unfamiliar with the system (Nelson & Eddy, 2008); however, over time they gradually became more familiar and comfortable with using the system, eventually creating their own tests for use in the classroom using the online software. These examples demonstrate that allowing participants time to become familiar and comfortable using new technology can help facilitate and sustain its use.

However, it is important to acknowledge that not everyone will be comfortable with technology even today in 2023. Therefore, it is also important for evaluation capacity builders to get a sense of people's comfort levels with technology when designing an online ECB strategy.

Consider Complementing Online ECB Interventions with Face-to-Face Components When Possible. While online ECB activities can be helpful for learning, there seems to be no substitute for human interaction. Including engaging, interactive activities can help, but as one case concluded:

> Supplementing [online] resources with ongoing consultations and/or face-to-face learning opportunities is critical for helping users to apply and consolidate the knowledge … web-based resources, then, should not be used as stand-alone tools, but rather should be seen as one important element in a range of tools and strategies for building evaluation capacity. (Sundar et al., 2010, pp. 104–105)

This suggests that combining or complementing online ECB activities with face-to-face strategies may be the most effective way to build capacity. This could include providing online resources and learning opportunities with in-person coaching or technical assistance to apply knowledge learned.

Tailor Online ECB Interventions to Local Contexts. While use of technology can increase access and reach more participants, several cases noted that the intervention must be tailored to the local context, which can be a particular challenge when working across multiple sites or organizations (Fleming & Easton, 2010; Mackay, 2002; Rorrer, 2016; Satterlund et al., 2013). Tailoring may also differ depending on the ECB intervention itself. Nevertheless, the cases we reviewed included examples of such tailoring. One involved stakeholders across multiple sites in developing an online evaluation toolkit to ensure it was relevant to users (Rorrer, 2016). Another applied an adaptive approach to building capacity, using multiple formats, such as webinars, newsletters, website postings, and workshops, to reach as many participants as possible in a manner that was accessible to them and best suited their needs (Satterlund et al., 2013).

Discussion

Strengths and Contribution to the Field

We reviewed 30 articles representing 29 cases of ECB interventions that were implemented online or made use of technology. Given the limited amount of published literature on this topic, this article contributes to the literature base by describing what ECB looks like in an online environment, including the barriers and facilitating factors associated with implementation. This review provides a synthesis of practices and lessons learned that may provide guidance for ECB practitioners to consider when developing online strategies for building evaluation capacity.

Limitations

This study focused on use of technology prior to the COVID-19 pandemic and thus does not account for new, innovative capacity-building strategies that may have been developed as a result of the pandemic. Furthermore, there is a wealth of information in the gray literature that is likely informative for developing innovative interventions using technology for capacity-building purposes. Those knowledge sources are not included in this review. In addition, many individuals and organizations conducting ECB practice online may not have published their work in the peer-reviewed literature and thus are not included in this review. Lastly, the data extraction and coding was conducted by two researchers working independently and thus may include some bias. However, we discussed findings with the larger research team to check assumptions. In the following section, we discuss implications of the findings and uses for practice.

Implications for ECB Practice

In this review, we found that ECB interventions implemented online were quite diverse and most involved multiple strategies. Common examples of online ECB practices included providing technical assistance, coaching, and mentoring via email, telephone, and virtual meetings. More recent trends with increased access to the Internet have shown an uptick in the use of web-based learning tools, online training, and webinars, which has facilitated broader reach and more cost-effective capacity building across multiple sites or in groups with large numbers of participants. While basic technology such as email and databases has been used consistently over time to build evaluation capacity (Brandon, 2004; Compton et al., 2008), novel interventions were developed with the increased use and mainstreaming of the Internet, as seen in the rise of online training and webinars in the latter half of the 2000s (Campbell et al., 2015; Zhao et al., 2017).

Despite an increase in novel ECB online interventions in the 29 case applications reviewed, we found that asynchronous ECB approaches were underutilized in comparison to synchronous approaches. The advantage of using asynchronous approaches (alone or in combination with synchronous strategies) is that it might increase access to ECB among a broader population. In particular, asynchronous online ECB activities could be beneficial for international programs, multisite programs, crisis situations such as the COVID-19 pandemic, and developing contexts where Internet infrastructure is not yet fully established.

We furthermore found that organizations working at a local level were more innovative and diverse in their use of online ECB interventions. State and federal governments typically provide funding to local government and community organizations; this may explain why they tend to provide online training as a primary ECB approach,

allowing them to reach multiple sites and invest in developing databases that their grantees use to report on activities and outcomes. Moreover, this result suggests that federal and state governments afford local organizations, such as schools, NGOs, and CBOs, greater discretion in employing diverse types of interventions tailored to their specific contexts.

Considering that the remote workplace set in motion by the COVID-19 pandemic will continue to be a staple of work life (Fayard et al., 2021) and that the future of work will likely be a hybrid of remote and in-person modalities (Gratton, 2021; Kane et al., 2021), the online ECB strategies examined in this study offer valuable insights for ECB practitioners in the post-COVID-19 era. Specifically, ECB practitioners can selectively employ and apply online ECB strategies, such as online workshops/webinars, web-based evaluation materials, and data management systems, that are appropriate to the program and evaluation context. Additionally, implementing these strategies synchronously and asynchronously in post-pandemic circumstances can enhance accessibility to ECB for a broader population. Adopting hybrid approaches to ECB that maximize the benefits of online platforms and in-person interactions has the potential to offer greater learning opportunities for those seeking ECB.

Similar to ECB interventions in general, the online interventions reviewed tended to make use of more than one strategy to build evaluation capacity (Bourgeois et al., 2023; Labin et al., 2012). This points to previous suggestions in the literature that using more than one strategy may be more effective at building capacity (Bourgeois et al., 2023; Preskill & Boyle, 2008). However, more research is needed to test this hypothesis.

Similarly, the ECB literature, regardless of intervention or approach, supports the idea that context is important. As in face-to-face ECB interventions (Beere, 2005; Cohen, 2006; Taut, 2007; Rosenstein & Englert, 2008), online ECB practice should also be tailored to local contexts or include activities that allow participants to apply learned concepts and skills to their specific organizational or programmatic context.

In addition to similarities between online and face-to-face ECB interventions, this review suggests that online ECB interventions face many of the same individual- and organizational-level barriers as general ECB interventions, in alignment with other reviews of the ECB literature (Labin et al., 2012). However, they have additional barriers specifically related to the online environment given the challenges associated with use of technology and the lack of in-person interaction. Nevertheless, the former can be mitigated by providing instructional materials or video tutorials to enhance uptake and usability. Lack of participant interaction can be mitigated through simulation of in-person environments by increasing communication and online synchronous interaction. This can be further enhanced by creating content and activities that are contextually relevant and of interest to the audience and facilitate engagement with fellow participants.

Nevertheless, fostering human interaction appears to be vital to success for online ECB practice, from what we discovered in this review. This can be enhanced when complemented by face-to-face components that allow participants to get to know each other. Blended learning, which combines both online and face-to-face instructional components, has shown promise in improving student learning experiences; it may hold the same promise for adults participating in online ECB activities (Hong, 2008; Ma & Lee, 2021; Means et al., 2010). Furthermore, the management literature suggests that at least some in-person interaction plays an important social function in making emotional connections and building relationships (Fayard et al., 2021), the latter of which is particularly important for building capacity.

The efficiency and convenience of online approaches, in tandem with the social connectedness of meeting in person, can create a compelling ECB combination. This means that ECB practitioners will likely need to adapt to working with audiences that may be online at least part of the time, taking into account which capacity-building activities will be best completed in an online environment and which may be better suited for face-to-face interaction. Like in evaluation and many other disciplines, ECB practitioners will need to develop new skills to effectively build capacity online.

Looking to the Future

The advantages of online approaches for building capacity hold great potential for increasing reach, lowering costs, and allowing participants to learn on their own time and in accordance with their learning preferences using a variety of synchronous and asynchronous materials. Adult learning theory posits that different personal characteristics lead to different preferences and modalities for learning among adults (Rolfe & Cheek, 2012). Thus, both understanding these preferences and having the flexibility to accommodate multiple learning preferences may be key to effectively building evaluation capacity online. Additionally, for those

programs that are multisite, use of online ECB strategies will likely remain not only a practical but also an efficient way to reach across time zones and geographies. Lastly, as the world of virtual work continues to evolve and in preparation for new societal crises, ECB practitioners should pay attention to evolving technologies and explore new ways of promoting inclusion of remote participants. In this regard, ECB practitioners have much to learn from the fields of online teaching and remote work. Given that online ECB practice is here to stay, future research may wish to explore how the effectiveness or impact of implementing ECB online enhances ECB practice.

Conclusion

Given the evolving advancements in technology and the generally pervasive move to remote ways of working during the COVID-19 pandemic, we anticipate that future use of technology for building evaluation capacity will only increase. ECB practitioners would be well advised to consider how to incorporate technology and online components into their practice, making them user-friendly and contextually relevant. Incorporating techniques that promote and enhance human engagement and exchange in an online environment, in combination with face-to-face interaction when possible, is ideal. Knowledge from the blended learning and online teaching literature may provide a starting place for evaluation capacity builders who are interested in integrating online ECB activities into their practice. Incorporating this tool set into their portfolio of strategies for capacity building not only will expand ECB practitioners' set of practices but also has the potential to extend the reach of ECB interventions to more people in a more cost-efficient manner.

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