The Collaboratory developed this toolkit to support the spread of virtual exchange programming for public diplomacy.

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virtual exchange toolkit

The Collaboratory | Bureau of Educational and Cultural Affairs
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Do you want your **students** to engage with their counterparts on projects that promote **tolerance, mutual understanding, and collaboration** to solve shared challenges?

Do you want to connect your **community** with their counterparts around the world, using technology as a tool to enhance members' educational and cross-cultural experience?

Participating in a virtual exchange creates opportunities for individuals to learn from one another, whether meeting for the first time online or sustaining relationships made in-person. This toolkit will provide some guidelines and principles to help you design and execute a virtual exchange, as well as some tips for technical troubleshooting.

about the collaboratory

The Collaboratory is the innovation lab of the Bureau of Educational and Cultural Affairs (ECA), our mission is to design, pilot, and spread new approaches to educational and cultural diplomacy. We explore new developments and technologies, forge partnerships, and link public diplomacy practitioners to experts in other sectors. Through this work, the Collaboratory plays a role in ensuring that public diplomacy adapts to the demands of a changing world. The Collaboratory partners with U.S. Embassies across the world and a variety of public and private organizations to incorporate virtual exchange innovations into public diplomacy. The Collaboratory supports virtual exchange programs throughout ECA on a variety of topics and themes, serving a variety of audiences.

what is a virtual exchange?

A virtual exchange should be personal, immersive, and intensive to make an impact, with the goal of transforming participants' ideas into actions. A one-time web-chat or a one-sided use of technology (web meeting, tour, town hall, etc.) is a virtual program, but does not meet the definition of virtual exchange due to the lack of sustained engagement and mutual transformation. A virtual exchange has an arc of engagement with a beginning, middle, and end that is built and centered on the participants and project goals. Virtual exchange should use a mix of synchronous (live, e.g. Zoom, Google Hangouts) and asynchronous (time-delayed, e.g. recorded, social media posts, or email) technologies that allow participants to interact and exchange beyond surface level connections. **Virtual exchanges have the ability to increase the arc of engagement, broaden audience reach, allow for nontraditional participation in traditional programs, for the creation of new programs, and allow for the inclusion of the community and/or the physical environment in the cultural or educational exchange program.** Virtual exchange, like traditional in-person exchange programming, is measured by sustained and planned evaluations to ensure participants meet goals and objectives.

what do virtual exchanges look like?

Virtual exchanges come in many shapes and sizes depending on your goals, audience, technical capacity, and subject matter. The program formats and technology platforms can range from informal discussions via Google Hangout, to more complex and formal online presentations and Q&A sessions between a virtual speaker and a large audience and breakout rooms via, for example, Zoom. Other live real-time platforms include Adobe Connect, YouTube, Facebook Live, Skype, Google Hangouts, and UberConference. Virtual exchange activities do not have to be live-streamed. Many teachers use email, text chats on social media, and even phone calls to supplement live streaming, or to bridge large differences in time zones. There are a variety of asynchronous platforms available for use on virtual exchange programs; including SnapChat, WhatsApp, Facebook, etc. You do not have to have high internet bandwidth to build a virtual exchange. **The important thing is to tailor the exchange to the participants, rather than attempting to tailor the participants to the technology.**

ECA's Collaboratory encourages using seven (7) criteria when creating a virtual exchange program:

1. **Have SMART goals for all planned virtual interactions and the program overall;**

2. **Focus on a specific objective during individual connections;**

3. **Include multiple interactions over a sustained period of time;**

4. **Involve skilled facilitators at each point of connection to guide conversation and ensure deep engagement for all participants;**

5. **Incorporate a mix of synchronous and asynchronous connections that allow for participants to interact beyond the surface-level;**

6. **Take time for participants to get to know each other personally, but go deeper than the "foods, flags, and festivals" level of exchange;**

7. **Integrate a variety of evaluation tools and methods to ensure participants reach program goals, learning, and participant outcomes and outputs.**

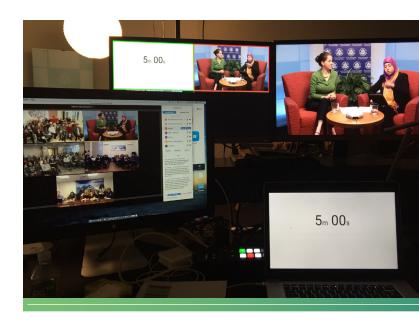# what are potential models for virtual exchange?

Anything, really. Here are some examples of successful virtual exchanges, both past and present:

GLOBE Pilot

This pilot connected students at schools in four different countries, all of whom were using the GLOBE (Global Learning and Observations to Benefit the Environment) citizen science program to perform environmental monitoring in their community. Over three months, students shared photos, videos, and stories over a closed Facebook page and connected live for six hour-long sessions during which they learned about mosquito-borne diseases, science communication, and producing tools to communicate with their communities about public health. Some live sessions also included guest presentations from museum designers and filmmakers. Because students were able to remain in their communities and their natural environment while participating, virtual exchange was the ideal medium for this program.

Virtual Book Clubs

Building off of traditional book clubs, the Collaboratory piloted a virtual book club for over 160 people in North Carolina, Afghanistan, Liberia, Nicaragua, and the Philippines who read *Hidden Figures* and came together for a series of in-person and virtual discussions focusing on women in Science, Technology, Engineering, and Math (STEM), diversity and inclusion, and the role of community. The five-month long virtual exchange culminated with a global virtual guest speaker, an astronautics engineer, who spoke to the participants about her work on creating capsules for reentry and leading teams for NASA.

Virtual Communities Connect

The six-month virtual exchange program connected 6th graders in Chicago, Illinois with their counterparts in Petit Chapelle, Belgium to study WWI, specifically their shared history of African-American soldiers from Chicago who liberated Petit Chapelle. In addition to the virtual exchange, students at both schools were charged to create memory boxes to send each other as well as a time capsule. Local historians and the Chicago History Museum supported the students and the program's curriculum.

Virtual Sister Cities

Building on established Sister City relationships between Kathmandu, Nepal and Eugene, Oregon, the American Space in Kathmandu is hosting the virtual exchange program that engages various civil groups in Nepal and their counterparts in the U.S. focusing on makerspace programs, urban planning, and municipal exchange. Participants on this program worked in cross-cultural, cross-virtual groups to create proposals to present to the Kathmandu municipal government for adoption.

how can I get started in designing and planning a virtual exchange?

Like any exchange program, virtual exchanges require thought, care, oversight, and evaluation. We have included a *Program Model Canvas and Guide* in this toolkit to help you through the program planning process.

If you have never done a virtual exchange before, you might want to start with a three-lesson arc. With this method, you host three synchronous sessions supported by a series of asynchronous connections in between. Evaluate what worked and what did not, and then build from there. Of course, you will be coordinating closely with the facilitators at all ends of the exchange. You will want to discuss teaching philosophies and styles as you begin to work together. Note that participant attention spans may be shorter for a virtual engagement than in an in-person setting. Plan for interactions that are about 45 minutes long.

Vary the size of the virtual connections along with the platform used to allow for a variety of interactions and experiences: small groups, large group, to one-on-one if appropriate. Some of the virtual connections should be in small-group format, five or less, so that as many participants as possible get a chance to interact directly. You will also want to work with participants to establish ground rules regarding respectful communication. For some programs, you may want to avoid one-on-one sessions between participants; you, and your facilitators, know what will work best in your situation.

The virtual exchange will have a more lasting impact if it goes beyond talk to action. We recommend that you design your exchange so that participants create and execute a joint project together that each group will carry out separately. In comparing the process and the results, participants will have some of their richest conversations. Participants should have incentives or milestones to achieve to interact with one another beyond their project as well; this will ensure more engagement that is meaningful.

You will also want to have some sort of culminating event, whether it is a guest speaker, an awards ceremony, a performance, or something else. At the right is a sample timeline of a virtual exchange program utilizing a project based method approach where participants worked together to complete science research and create a joint podcast about their research. Please note that participants are required to hit milestone interactions with each other beyond their research and podcast to increase engagement.

sample program timeline:

October | month 1
» Partner and facilitator introductions
» Participant recruitment and selection- both U.S. and abroad
» Facilitators finalize selection of science project

October – December | month 1 - 3
» Facilitator planning and training on virtual platforms

December | month 3
» Podcast training for facilitators and participants
» Participants must send 5-minute intro podcast segments to each other

January | month 4
» Virtual connections begin (synchronous and asynchronous)
» Participants complete science project
» Participants continue podcast creation

May | month 9
» Podcast launch

June | month 10
» Program closing

best practices and take aways

» Create SMART (Specific, Measurable, Achievable, Relevant, Timbe-bound) goals for the program as a first step. Determine what you want your outcomes to be for any potential participants.

» From your goals, create a robust Monitoring and Evaluation plan that all partners can assist in implementing.

» Identify your target audiences for all of the countries/communities and determine their interest/needs in participating in the program.

» Center the virtual exchange on a project-based model learning approach.

» Choose the technology and platforms appropriate for the needs of the participants and program.

» Within the program, build in lead-time for facilitators to train on any technology, practice and test virtual connections, and coordinate with one another.

» When possible build off other existing programs, learning models, or participant programs that exist as this allows the virtual exchange to be a value add.

» Blending in-person elements with a virtual exchange can greatly enhance the experience for participants. Do not be afraid to bring in speakers, conduct a tour of museum virtually, or experiment with other in-person elements.

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technical tips

If you have designed an exchange that will use two-way video, make sure you test your connection before starting the exchange. The ideal time to test would be one week before at the time of the exchange, since it will most closely match what you can expect on the big day. Always have a backup plan, even if it is just a phone at the ready. Also, make sure you have a strong hard Internet connection, ideally via Ethernet rather than Wi-Fi for more stability. Also, make sure that the microphone is only on for the person who is currently speaking. All other microphones for participants should be muted. This step will eliminate feedback and greatly increase sound quality.

technical troubleshooting cheat sheet

Virtual exchange programs are a challenging blend of audio, video, internet, and technology troubleshooting. Two "rules of thumb" you may find helpful are eliminating variables, and working your way backwards from the problem.

Granting access to your computer to the host of the event might be the easiest way to troubleshoot any technical problems. If you are using a platform, like Zoom, that allows remote access, consider allowing the host or the tech advisor a chance to troubleshoot for you remotely.

Eliminating Variables requires looking at all of the possible factors that could influence your problem and testing each one. By eliminating all of the variables that are not influencing your problem, you also simplify the set of solutions available.

Working your way backwards from the problem involves reviewing the cause and effect chain. That is, returning to each step along your process of connecting cables, turning switches on, accessing internet, and running your program. Only you can know the particular process and variables at play with your program, but we have a list of general questions and tips to help you.

general troubleshooting checklist and questions

Troubleshooting for Computer & Internet Access

» Is everything turned on? Check every piece of equipment.

» Are the equipment and computer charged and/or plugged in?

» Are all of the cables connected and plugged in tightly? Follow each cord.

» Have you tried connecting from another computer?

» Are you connected to the internet?

» Are you accessing the correct URL/website link?

» Have you tried using a different web browser? Chrome, Safari, and Firefox, may work differently for you, depending on the platform you use.

» Have you tried refreshing the web page?

» Have you disabled your browser pop-up blocker for the particular website or application?

» Is there a system firewall blocking your website?
 – Be mindful that some governments, locations, and/ or organizations restrict access to certain websites and social media platforms, testing early and often can avoid headache and embarrassment later.

» Have you cleared the browser's cache?

» Do you have the latest version of Adobe Flash, Java, etc.?

» Have you downloaded and installed all necessary software or application plug-ins?

» Are you using the most updated version of your browser?

» Have you closed all other programs, applications, or processes running in the background that may slow your connection or your computer?

» Do you have any other programs running that use your webcam and mic and might interfere, such as Skype?

Troubleshooting for Audio and Video

» Is an audio or video problem being experienced by all users, or only a problem for one particular user?

» If a particular user or counterpart is having difficulty with the audio, ask:
  – If the participant's speakers are unmuted, turned on, and turned up,
  – If the participant has another program operating that could steal audio, or
  – If the participant can check his/her system preference settings AND those of the online platform being used. Sometimes having different settings in each location can create a clash.
  – Does the platform require you to select your mic/camera? Has the correct mic/camera selected?

» Are the speakers turned on and volume up?

» If your device connection or sound keeps dropping out, then you may have a bad cable. Try replacing it with a different cable if one is available.

» If your microphone requires batteries (such as wireless mics), are they new batteries? Try changing them.

» Is the microphone too far away from the audio source?

» Is the microphone too close to the audio source?

» Do you need external speakers to amplify audio?

» Are all cell phones in the vicinity turned off?

» Is there a piece of clothing or jewelry interfering with the audio source/microphone?

» If you have a USB microphone plugged into your computer, did you try restarting the computer?

» Is the USB microphone selected as your input in the virtual web-chat room settings and computer system preferences?

» Is your webcam or video camera turned on, and are all of the cords securely plugged in?

» Is your camera recognized on the computer AND within the virtual web-chat platform?

» If the video is buffering and too slow:

» Have you tried adjusting your video quality by right clicking the video player and picking a lower resolution?

» Close all other browser tabs, websites, and video/audio players to ensure a faster speed.

remember

1. Even if you have tested the connection previously, always allow ample time for testing and setup beforehand. Be ready at least an hour before the live event.

2. Always test the microphones before you begin ("Testing, check 1, 2, 3…" or "Boots and cats").

3. Relax. Even if there are a few technical bumps, and there will be, the participants will remember the exchange itself rather than what happened with the microphone.

connect
with the Collaboratory

We want to hear from you! Let us know what you are doing, how we can support you, what kinds of resources you would like to see, or if you would like an introduction to any of the an organization to start a virtual exchange for your community. You can reach us at **ecacollaboratory@state.gov.**

the program model canvas

Key Partners

Key Activities

Key Resources

Value Propositions

Customer Relationships

Channels

Customer Segments

Cost Structure

Revenue Streams

Evaluation

Follow-on