

Exhibit: Evolution of
Communication Technology and Today

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Assessment 1
Using Secondary Data

Liberty Science Center visitors have been utilizing various communication methods throughout their lives. The communication methods have changed throughout the years and are likely to change again in the future. The creation and integration of an exhibit entitled “Evolution of Communication Technology and Today” will provide a hands-on learning activity that will display how individuals, of all ages, are communicating with current state-of-the-art technology.

Design Principles and Purpose

Individuals approaching this exhibit will instantly be presented with simple instructions surrounding installed hardware. Upon reading the first simple instruction, “Place headphones on your head,” participants will hear off-site individuals communicated audibly. Additional simple instructions will allow participants to communicate via the keyboard, microphone and webcam. These components of the exhibit, uses the method of “discoverability.” As Norman (2013) describes, “the relevant components must be visible, and they must communicate the correct message: What actions are possible? Where and how should they be done?” (p. 3).

This exhibit will utilize the internet and proprietary software applications to connect participants with individuals at another location. This collaboration, with the use of technology, will keep the participants engaged due to the technological enhancement as well as the social interaction. As Feinstein et al. (2014) state, “most people think of museums and science centers as physical spaces full of exhibits that help children and adults learn about science, yet contemporary ISE organizations are far more than exhibit halls. Some reach their largest audience through internet programming” (p. 375).

This exhibit is designed around the participants’ ability to use technology. Participants have the option of using a keyboard for typing, microphone for speaking and/or a webcam for gesturing to communicate with the individual they are digitally communicating with. Norman (2013) explains human-centered design by stating it is, “an approach that puts human needs,

capabilities, and behavior first, then designs to accommodate those needs, capabilities, and ways of behaving. Good design starts with an understanding of psychology and technology” (p. 8).

The exhibit will provide participants with an initial prompt to place the headphones on their head and to communicate by using the keyboard or microphone to speak. Text will be posted on a second monitor, transcribed from the individual speaking or typing on the first monitor. If a language is being used unfamiliar to the participant, instructions are provided on how to translate text, if needed, using a second dedicated monitor. The instructions displayed put to practice the *understanding* characteristic. Norman (2013) explains that “with complex devices, discoverability and understanding require the aid of manuals or personal instruction. We accept this if the device is indeed complex, but it should be unnecessary for simple things” (p. 3). Some participants may have never utilized a translation tool, so more detailed instructions are provided.

The *authenticity* of the exhibit is evident in the actions that can be seen at the first moment of interaction with the exhibit. Participants will initially choose his or her mode of communication (webcam gestures, text chat or microphone). After that point, it is up to the participants, from both ends of communication, to take the conversation to wherever they would like. Some suggestions on conversation topics will be posted around the exhibit (“What communication method from the past was most interesting to learn about?” “What was your favorite exhibit?”). Schwan et al. (2014) explain that, “placing emphasis on authenticity means to provide the visitor or learner with something “real” or “original,” be it an authentic object, an authentic context, or an authentic experience” (p. 76).

Educational Objectives

- Participants will apply knowledge of communication methods to effectively communicate with peers.
- Participants, of all ages, will practice using technology to collaborate with others on the subject at hand.
- Interaction with technology will embed visitors' minds with the concept of communication technology.

Relevance

Many museums or science centers have exhibits which cover the evolution of communication methods across the globe. The evolution and availability of technologies differ in other countries. Participants will be able to connect with peers at other partner museums, across the globe to discuss differences in exhibits in their museums (Blyth 2016, p. 1). Proprietary translation software will be used to remove the possible language barriers during the collaboration process.

Feasibility

This exhibit will be a low-cost investment. Monitors, PCU, microphone, headphones, keyboard and webcams can be repurposed or purchased. Proprietary virtual classroom software will be displayed on one monitor and proprietary translation software will be displayed on a second monitor. Liberty Science Center's existing Wi-Fi network will be used to connect participants to off-site participants. One or two chairs and desk will need to be repurposed or purchased.

The exhibition coordinator will utilize existing relationships with other domestic and international museums. Using these relationships will allow LSC to enable students to communicate with visitors located at partnered museums.

Visual Model

Figure 1.0. Modern Communication Method Model

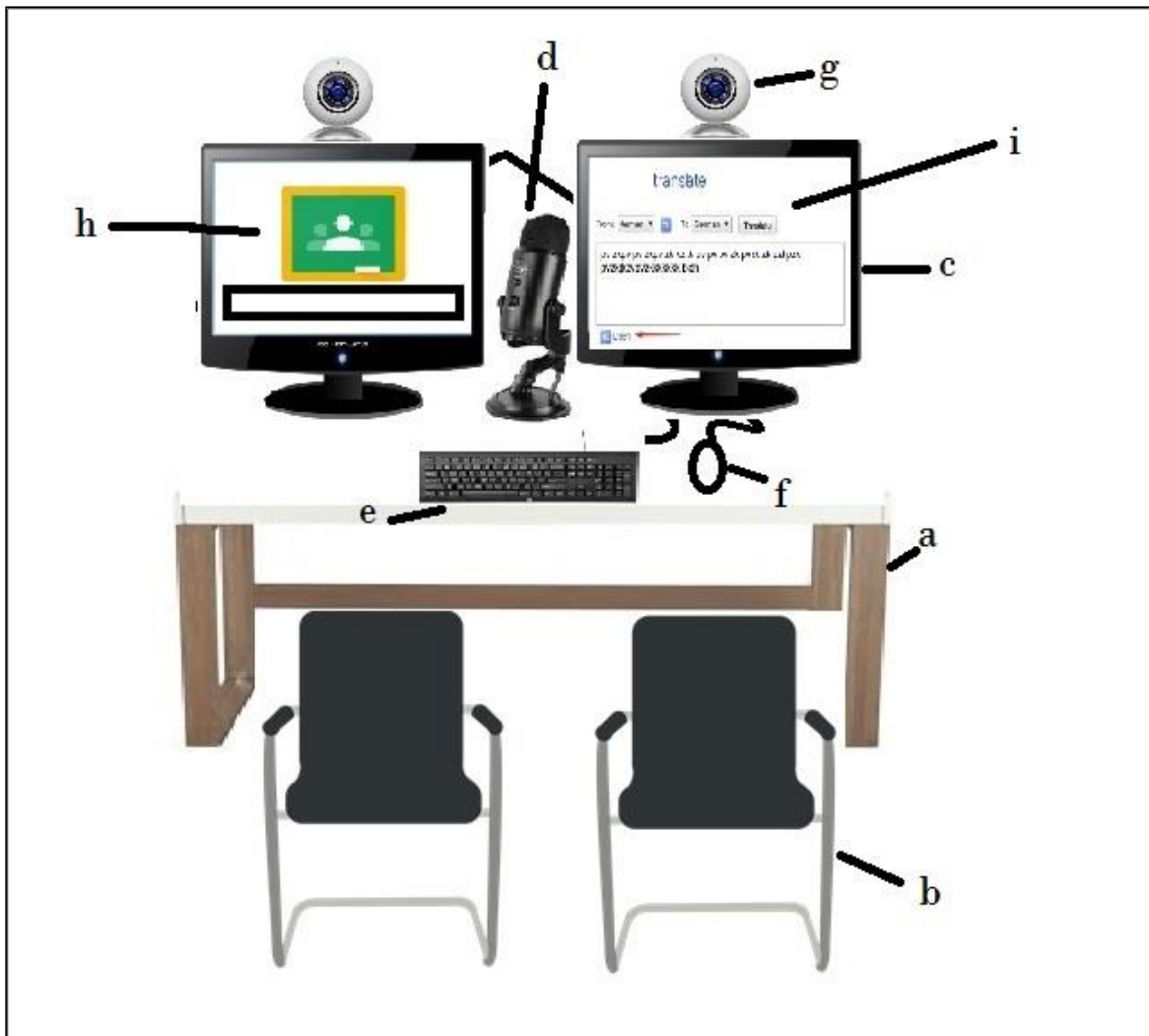


Figure 1.0. Drawing of a modern communication method using technology. The figure includes a table (a), chairs (b), monitors (c), microphone (d), keyboard (e), headphones (f), webcam (g), proprietary virtual classroom software (h) and proprietary translation software (i).

Participants' Experience

Visitors will initially enter the communication technology area of the museum. This area provides educational information to individuals on the progression of communication technology around the world. As visitors complete exhibits on early communication technology methods,

they will advance to the final exhibit in this area. This will be the “Evolution of Communication Technology and Today” exhibit.

As a visitor approaches the exhibit, he/she will be prompted to: stand or sit in front of the monitors, use one of the tools to communicate (headphones, keyboard, microphone and/or webcam) and to wait for an individual to appear on the screen in front of them if someone is not already waiting for them.

Once the individual has virtually connected with another individual on the monitor, he/she will be prompted to interact with the other individual regarding their thoughts, experience and difficulties using communication technologies. “Talking Points” will be provided on the exhibit desk which will assist in the collaboration process

In the event that a language barrier is present, the individual will be able to use the proprietary translation software available on the second monitor. This software will be able to translate audio, received by way of the microphone, and text inputted into the virtual classroom software will be translated to a language of the participant’s choice.

Summary

The intention of the implementation of this exhibit is to familiarize Liberty Science Center guests with information on the progression and development of communication technology throughout history. To enhance this experience, visitors will engage in the learning experience by communicating with other learners in off-site locations. The creation and integration of the “Evolution of Communication Technology and Today” exhibit will provide a hands-on learning activity that can be updated as communication technologies change in the future.

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