How To Select Digital Tools to Support Training and Capacity Building

Principle(s) Addressed
Understand the Ecosystem, Design for Scale,
Build for Sustainability, Reuse and Improve

Overview

Using digital platforms, such as online learning and mobile learning technologies, can increase the efficiency and effectiveness of capacity building and training activities.

Description

Capacity building is traditionally attempted through short-term, in-person, instructor-led trainings facilitated by technical experts. These training events can be costly, requiring travel, venue costs and perhaps even per diems. More importantly, research shows that intensive workshops with no follow-up training or refreshers result in trainees retaining and applying only a small portion of the knowledge delivered through the workshops. This result is also well-documented in the area of teacher training, where one-time, intensive workshops are recognized as ineffective and have been replaced by ongoing work-based learning, taking place in communities of practice.

Virtual learning using digital platforms can be a good way to support capacity building tailored to the needs of individuals. This method can be used to deliver initial and refresher training, as well as to provide ongoing support and mentorship to hone and build skills. Developing online or mobile training resources does require investment in a technology platform and, potentially, content creation, if your content is not in a format where it can be readily integrated with a digital platform. However, virtual training can save on other delivery costs and result in better knowledge retention and application. Depending on your learners' access to technology, their technology skills and their needs, you may find that capacity building either can be done completely virtually or would be better facilitated through a blended learning approach that combines both in-person

> "We need to take discussion of best practice to the next level, where more people are more knowledgeable about how digital technologies can benefit the work we are doing, and what the potential risks are. The Principles for Digital Development are a framework for considering both the possibilities and the challenges that digital development can present."

JENS KARBERG
Swedish International Development Cooperation Agency (SIDA)

[1] Meacham M. Don't Forget the Ebbinghaus Forgetting Curve [blog post]. Association for Talent and Development. January 20, 2016. Available at: https://www.td.org/Publications/Blogs/Science-of-Learning-Blog/2016/01/Dont-Forget-the-Ebbinhaus-Forgetting-Curve.

Principles *for* Digital Development

and virtual learning, perhaps including face-to-face group activities at work. In this How to, the term professional development is used for approaches to capacity building that go beyond one-off workshop-based trainings.

It is important to note that at times using a digital tool may not be appropriate. Using the wrong tool at the wrong time could result in worse training outcomes than what could be achieved in traditional in-person training. Just because a digital tool has been used by others or in other training scenarios does mean that it is necessarily the solution for your training challenge.

This guide outlines steps to help you select digital tools for training and capacity building. **These recommendations are summarized from existing references, which are noted in the Resources section.**

Learning modes

Blended learning is a learning approach that combines different modes of learning, such as mixing online learning with traditional classroom and in-person methods. There are a number of different learning modes that are important to consider:

- **Face-to-face workshops,** typically facilitated by an expert, that include a range of different activities, such as talks, group activities (e.g., face-to-face dialogue) and individual work.

- **Virtual learning,** such as individual e-learning (e.g., self-study) or participation in WhatsApp groups (e.g., virtual dialogue, virtual communities of practice).

- **Work-based learning,** such as in a rural clinic or school, typically peer facilitated and supported by resources (e.g., study materials), enabling face-to-face dialogue and communities of practice.

A blended learning approach could include multiple in-person workshops interspersed with activities conducted online and group activities at the workplace. Or one in-person workshop could be followed by supplemental materials delivered through a digital platform.

Reflective learning and dialogue

The goal of professional development is for practitioners to develop a sense of when it is effective, rather than blindly following a

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process.. The sense comes from reflecting on work, asking how it went, what could be done differently and how it could be more effective. Professional development should aim to create reflective practitioners, able to reflect critically on their own practice.
An important component of professional development is dialogue. Dialogue can support reflective practice, raise new questions, generate new ideas, enable learners to consider issues from other perspectives and enable learners to support one another. Digital tools can allow participants who are spatially isolated from one another to have technology-mediated dialogue and to learn from and motivate one another. For example, dialogue between two teachers who are both trying to solve the same problem at different schools could generate new ideas and motivate each teacher to try a new approach. Then, being able to reconnect virtually to reflect on the results of trying that approach could significantly increase the impact of the learning.

Process

The ADDIE model [https://www.td.org/Publications/Newsletters/Links/2015/01/All-About-ADDIE] is a well-established framework for developing professional development programs. ADDIE stands for Analysis, Design, Development, Implementation and Evaluation. This guide adapts the ADDIE model steps for the digital development practitioner. This process can be used to develop a professional development program for any audience, whether farmers, health workers, government officials or nongovernmental organization staff.

1. **Learn about your learners** [http://digitalprinciples.org/design-with-the-user/]. Determine if your target audience really needs professional development in the topic area that you have identified. Consult with prospective learners to determine what kind of capacity building they need or want, and document the skills that they currently have. Identify the target audience's current tasks, challenges and motivation for gaining new knowledge or skills. Understanding workload, technology habits and literacy rates will help you determine if a digital platform would be appropriate for your learners and what platform to choose.

2. **Understand the ecosystem** [http://digitalprinciples.org/understand-the-existing-ecosystem/]. Take a broad look at the
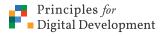

PROCESS
TIPS AND RESOURCES

TIP: When developing any professional development program or materials, it can be useful to consult an adult-learning specialist or instructional designer to assist with developing learning objectives, writing professional development plans and creating or adapting course content.

TIP: E-learning is a good option for learners who:

- Come from geographically dispersed locations.

- Have limited mobility and would face challenges attending in-person training (this could include learners in conflict settings).

- Have limited daily time to devote to capacity building and would benefit from courses being split into short modules.

- Have reliable access to the necessary technology and basic computer and internet skills.

- Appreciate learning at their own pace.

(Adapted from: Ghirardini B, *E-learning Methodologies: A Guide for Designing and Developing E-learning Courses*, Rome: Food and Agriculture Organization of the United Nations, 2011.)

ecosystem where your target audience lives and works. Ask questions such as the following:
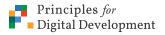
- Are computers or other information and communications technologies available to trainees in their homes, in publicly accessible facilities like libraries and internet cafes, or at their workplaces? If so, do trainees have reliable access to the internet?
- Do these computers or mobile phones have internet connectivity? How reliable or costly is this? What strategies can you use to improve internet access? For example, can you deliver self-study materials offline, reserving online time for peer discussion?
- How do people in the community typically use mobile phones? Do they use text messaging, voice or mobile broadband?
- Do women and men have different access to technology and therefore would not be able to access training materials equally?
- Will any major upcoming events or other training programs affect the ability for people to participate in or follow through with your training?
- How is your target population receiving professional development now? How have they received training in the past? What did they like or not like about those methods? What methods or tools from successful trainings could be reused [http://digitalprinciples.org/reuse-and-improve/]?
- Are there cultural sensitivities to be considered?
- How do peer groups at work or in the community influence the professional development tools that learners use?

Conducting this analysis can allow you to determine which learning approaches and technologies would be most likely to scale and be sustainable in your ecosystem [http://digitalprinciples.org/design-for-scale/] [http://digitalprinciples.org/understand-the-existing-ecosystem/].

3. **Define your learning objectives.** Determine what you expect your learners to take away from professional development. Outline a sequence of objectives or outcomes that will be achieved in a certain order over the duration of the training. Your objectives should be specific and measurable change statements around knowledge, understanding and behavior. Learning objectives

TIP: When creating learning objectives, it is helpful to consider different models of learning. For example, the Generic Learning Outcomes consider "knowledge and understanding" as one learning outcome, along with skills, attitudes and values, behavior and progression, enjoyment, creativity, and inspiration. Do your learning objectives include several of these? A very useful tool is Bloom's Taxonomy, which classifies educational learning objectives into levels of complexity and specificity [https://elearningindustry.com/writing-learning-objectives-for-elearning-what-elearning-professionals-should-know]. For example, the knowledge-based (cognitive) domain is classified as Remember, Understand, Apply, Analyze, Evaluate and Create. Do your learning objectives include several of these? Or do they focus on just remembering and understanding, but not on others, such as applying or evaluating? An effective professional development program needs to include a range of learning outcomes across all of these domains.

are often formulated together with success criteria, which can evaluate whether learners have achieved the learning objectives. Develop a measurement plan for evaluating the learning outcomes, including data collection tools and methods like pre- and post-tests, feedback questions, attendance or engagement analytics, or other tracking and follow-up that may be facilitated through the technology.

4. **Identify the appropriate methods and technologies that fit your professional development users, ecosystem and objectives.** Many technology options are available for capacity building; however, a completely online approach might not be right for your initiative. Consider the information collected in steps 1, 2 and 3 and determine which method — all online, blended or all in-person — best suits your users, ecosystem and objectives.
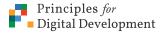
If you determine that an online or blended approach is the best method, there are several types of learning technologies and platforms to choose from:

- E-learning encompasses a wide variety of approaches that use the internet and computer for delivery, including online courses, live sessions and self-paced modules. E-learning can also include e-coaching, e-mentoring and collaborative learning through online discussions. Plan International's Plan Academy [www.plan-academy.org/] is an example of an e-learning platform. It includes self-paced courses, a forum for connecting with other learners and a "Discover" section with learning resources.

- Mobile learning (m-learning) can be similar to e-learning, with trainees using mobile devices to access short learning modules or participate in online discussions through an app or their web browser. The University Skills and Workforce Development Program (USWDP), funded by USAID and implemented by FHI 360, provided m-learning modules to university students in Kabul, Afghanistan, to complete on their mobile phones before coming to class [https://www.ustadmobile.com/lms/blog/]. These modules included short introductory videos, assessments and video-based simulations.

- Mobile devices also provide the opportunity for learning through interactive voice response (IVR), text and other

[2]Trucano M. In search of the ideal educational technology device for developing countries [blog post]. EduTech. The World Bank, January 10, 2014. Available at http://blogs.worldbank.org/edutech/ideal-educational-technology-device.

messaging, and communication applications. The Better Immunization Data (BID) Initiative in Tanzania uses WhatsApp for peer learning, allowing health care workers to share their experiences, discuss challenges and provide tips to one another on implementing new processes and procedures [http://bidinitiative.org/blog/health-workers-successfully-use-whatsapp-to-solve-problems/]. In setting up a peer-learning approach, BID surveyed health care workers on how they thought capacity building could best be achieved. Based on the health care workers' responses, BID determined that WhatsApp had the necessary features to foster group conversation cheaply, easily and on demand.

- IVR is a useful method when users have limited literacy skills or when you want to provide significant content to users of basic mobile phones. For example, Awaaz.de [https://www.awaaz.de/] uses IVR to provide agricultural extension services to farmers rather than having agricultural agents visit farmers in person. Farmers receive voice messages that have been developed by agriculture scientists and experts on topics such as crop production, livestock and horticulture. The information is delivered in the local language, and the platform allows farmers to record responses to the voice messages and ask questions.

- SMS messaging gives you the ability to provide reinforcement and motivation to trainees. RTI International tested the effectiveness of providing SMS messages to teachers in Malawi to reinforce training they had received at in-person zonal training sessions [https://ierc-publicfiles.s3.amazonaws.com/public/resources/RTI_CIES2017_Malawi_SMS_March%206.pptx]. Results suggest that teachers who were randomly assigned to receive the SMS messages were better able to retain information communicated at the zonal trainings compared with those who did not.
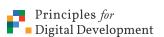
Through your user research and ecosystem analysis, you will have gathered important information that can help pick the best technology or platform. Consider the following factors:

- Affordability: What makes sense for your project budget? Would any technology put too much of a cost burden on your users because of the need to pay for internet access or mobile airtime?

> "Few innovation program managers know how to find open source code that they could start with or incorporate. We don't have any community space or portal or interface or guidance to help people reuse and improve."
>
> **NATHANIEL CALHOUN**
> Code Innovation

- Accessibility: Are the devices needed to access the training materials available to trainees?
- Connectivity: Are internet or mobile connections reliable?
- Electricity: Will power outages or uncharged devices create challenges in accessing training materials?
- Usability: Do trainees have the technology skills needed to make use of the technology platform? Is the platform intuitive and easy to use?[2]
- Analytics: What data does the tool or platform generate that will be useful for understanding usage or demographic trends and enabling feedback and learning? Can the data be adapted to allow for additional feedback or testing?

5. **Look for existing resources and platforms that fit your program needs.** [http://www.digitalprinciples.org/reuse-and-improve/] Before creating content for your selected technology platform, conduct a thorough search to see what content may already exist. For example, TechChange [https://www.techchange.org/] offers e-learning courses covering digital development topics such as mobiles for international development and technology for monitoring and evaluation.

    Numerous platforms currently exist for setting up online courses and communities of practice. Also, several IVR and SMS platforms have been well-tested in the international development community. Kopernik maintains a list of SMS and IVR platforms for digital development initiatives [http://impacttrackertech.kopernik.info/mobile-communication-technology-platforms]. Compare platforms based on the needs of your program and users.
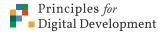
    In your search for existing materials, consider open educational resources (OER) or Creative Commons–licensed materials (<<link to Use Open and Reuse & Improve >>). Many materials are available, including staff development, higher education and teacher education resources. (see Resources). For example, the Creative Commons search on Flickr is an excellent source for images, and it is often possible to find locally relevant images. [https://www.flickr.com/creativecommons/]

> "In developing your own technology solution, you can make a lot of rapid prototypes and quick gains, but people who have a less technical background often fail to realize that's just the tip of the iceberg. Your investment is going to increase substantially if you want to sustain [the solution]. And if you don't [do the necessary maintenance and upgrades], you can trap yourself with legacy software that becomes difficult or impossible to use."
>
> **LUKE DISNEY**
> NorthStar Alliance

6. **Monitor and evaluate professional development activities and redesign as needed.** [http://www.digitalprinciples.org/be-data-driven/]. Your professional development should have its own theory of change, including the monitoring of inputs, outputs, outcomes and impact. This includes implementing your measurement plan to monitor the technology selected based on your learning objectives and to identify any problems and challenges quickly. Use the technology to facilitate feedback as much as possible, but be sure to engage with users and ask them to share their perspectives, encouraging them to be honest. Do users feel like the digital platform is easy to use? Has it improved their ability to apply new knowledge? Depending on your platform, you also may be able to monitor usage statistics (e.g., page views, number of posts, video views, etc.). If you are not meeting your usage targets, consult your users on why they are not accessing the program materials, asking them about aspects such as the professional development content, relevance and platform facilitation. After the training ends, evaluate not only the desired learning outcomes but also the success of the technology platform and how it contributed specifically to achieving the defined learning objectives. Share what you have learned with others and, as a reflective practitioner, integrate what you learned into the next round of professional development.

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Outcomes

These outcomes are illustrative and have been collected from digital development organizations that have followed the steps outlined in this guide.

■ Users achieve learning objectives (testing and/or evaluation).

■ Users actively use the selected technology platform (engagement analytics, built-in or secondary).

■ Users express that the technology added value to the learning experience (feedback surveys or focus groups).

Common Missteps

■ **Not engaging or motivating users**. Benefiting from online or mobile learning requires learners to be motivated. They need to initiate the e-learning course, access the online forum or listen to the IVR messages. Consult with learners to understand what

[2]Trucano M. "In Search of the Ideal Educational Technology Device for Developing Countries" [blog post], EduTech. 2014 Jan 10. http://blogs.worldbank.org/edutech/ideal-educational-technology-device.

incentives will drive them to use the platform. In some cases, it may be a certificate or the opportunity to engage virtually with peers or mentors.

- **Developing one-size-fits-all training.** Even though a specific technology platform may have led to improved learning outcomes in one context, it may not be appropriate for another. If you used SMS messaging for training reinforcement in one country, you may have to consider how to repurpose the content to be delivered by IVR in another. Looking at the factors outlined in step 2 of this guide ("Understand the ecosystem") will help you to determine if a technology is appropriate for your context.

- **Insufficient preparation of facilitators.** Usually facilitators, especially when they are new to facilitating virtual rather than in-person training, need their own professional development to be able to run courses effectively. Just as learners need professional development rather than a one-day training, your facilitators need ongoing support and opportunities for their own professional development.

- **Not allowing adequate time and resources.** Developing a new training approach could require extra time and planning, as well as the involvement of people with different technical backgrounds. Include in your timeline adequate time for the research, user consultation and testing needed to select the right digital tool. Develop a clear budget that shows the technology planning, design and development costs. You may also want to quantify what the costs would have been for alternative approaches, so your funder or other stakeholders can understand the cost differences over time. For example, adopting an e-learning approach may have significant upfront development costs but will save money over time due to not needing to bring learners together for in-person workshops.

- **Waiting too long to develop metrics.** Sometimes, teams wait until a program has already started implementing or, worse, until it is ending to decide which data are needed to both evaluate its success (specific learning outcomes and engagement levels) and monitor its implementation (checking usage patterns, getting constructive feedback and tracking indicators). This can mean missed opportunities to collect the right data or to engage the right people at the right time for important input.

RESOURCES

All About ADDIE, Association for Talent Development (ATD). https://www.td.org/Publications/Newsletters/Links/2015/01/All-About-ADDIE

Blended Learning Solutions Toolkit, Creative Associates International and ACDI/VOCA. https://zingtree.com/host.php?style=buttons&tree_id=886377112&persist_names=Restart&persist_node_ids=1#1

E-learning Methodologies: A Guide for Designing and Developing E-learning Courses, UN Food and Agriculture Organization (FAO). http://www.fao.org/docrep/015/i2516e/i2516e.pdf

How to Create an E-learning Course in 12 Steps, SHIFT Disruptive Learning. http://info.shiftelearning.com/blog/how-to-create-an-elearning-course-steps

Open Education Resources Guidance for Schools, University of Cambridge. http://oer.educ.cam.ac.uk/wiki/Home

Training Health Workers, Grameen Foundation. www.grameenfoundation.org/what-we-do/health/training-health-workers

Use of an Interactive Voice Response System to Deliver Refresher Training in Senegal, IntraHealth International. https://www.intrahealth.org/resources/use-interactive-voice-response-system-deliver-refresher-training-senegal