RESOURCE GUIDE TO LEARNING DELIVERY METHODS

A SHARED RESOURCE EMERGING FROM WORK DONE FOR THE ILO IMPACT INSURANCE FACILITY

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INTRODUCTION TO THE RESOURCE GUIDE TO LEARNING DELIVERY METHODS

In 2014 we (Nancy White and Scott Leslie) supported an analysis for decision making on training strategies for the International Labour Organization's Microinsurance Innovation Facility, now the Impact Insurance Facility (http://www.impactinsurance.org/). This document is a version of one of the outputs of our work, shared with permission from the Facility with the hope that it adds value to your work. (The other elements include a Glossary and a Strategic Options documents.) We hope to also put these online for crowd-sourced critique and revisions. (TBA!)

The Facility team was evaluating their e-learning options to expand capacity building for microinsurance for the poor. An early identified need was to understand elearning in the wider context of delivery mechanisms.

The basic content can be useful when starting to consider capacity development, training or specifically an e-learning strategy. It is not exhaustive, and some things have become dated since it was written. Understanding that, it can help you understand the range of learning options, and where they might be most effective.

We surveyed 20 different learning delivery methods across five major categories:

- Face-to-face delivery methods
- Online delivery methods:
  - Traditional online courses
  - MOOCs, communities & self-directed learning
  - Synchronous methods
  - Mobile delivery methods
- Offline delivery methods
- Blended and hybrid methods

This guide is the detailed analysis of these methods in the context of the Facility's domain. It includes a general description, domain-related examples, and provides insight and comparisons on these methods based the qualities the organization identified as key to assessing any proposed solution. These qualities include:

- the implications of this method on scalability and adaptability of content
- implications on quality control
- any effects the method may have on motivating learners' completion of training and achievement of learning objectives
- the ease and costs of implementing any of these methods

Your qualities may be different, so you may wish to consider your needs and how the methods may or may not meet your needs.

FACE TO FACE DELIVERY METHODS

Face to face delivery methods are the most familiar mechanisms for training delivery. We have briefly considered two varieties: short (1-2 day maximum) workshops, and longer (1 week and up) courses. The shortcoming of face to face methods is that in order for them to scale, they require repeated delivery, involving a corresponding increase in cost for each iteration as well as increased quality variability of different facilitators. Their strength is that they can be attractive to participants as they are a familiar approach. Face to face is accessible to all learners regardless of their access to technology. When travel is involved, it can be used as a motivator to engage learners. Face to face delivery is never likely to disappear, and for certain types of training requiring increased learner-to-learner interaction or where the training goal includes strong affective / interpersonal content, it may be a preferred mechanism. However, increasingly face-to-face training is no longer done in isolation, and is either a part of a larger "blended" or "hybrid" model, or else only one of many delivery channels for well-designed learning content.

SHORT, ONE-OFF WORKSHOPS

Description

The most familiar delivery method, face to face workshops are typically of short duration, led or facilitated by an instructor, and require participants to be in the same location at the same time. Workshop activities can be of a diverse type, from didactic "lecture" models to group discussions, brainstorming, activities or role play.

Learner Accessibility/Requirements

Requires short (1 hour-2 days) of learners' time. Potentially no travel if workshop is being delivered at an organization with a large enough number of learners on site, but generally may require learners to travel.

Scalability Implications

Individual workshops generally don't work well beyond 50 people and are often much smaller. The way to scale this is by providing supporting materials and "train the trainer" offering so that it can be widely replicated and delivered.

Quality Implications

While a high degree of control can be exerted over the curricular materials, and some control can be asserted in certifying trainers, ultimately the quality of the experience does depend on the quality of the instructor and instructional practices, which may vary.

Adaptability (between mediums; between versions; between learning providers/contexts)

Basic static content materials (modular content) developed for F2F workshops may be shared online reasonably easily and vice versa. Their effectiveness may be lessened to the extent to which the content requires instructor interventions which may need to be replicated differently in online environments.

Addresses Which Learning Objectives Most Effectively

Best used in where the learning has a high affective / interpersonal nature, or involves psychomotor skills. Is often used for more cognitive-based learning, but is a resource-intensive and inefficient method of conveying basic concepts, facts or procedures.

Accommodates Which Types of Learning Activities Most Easily

Works best for collaborative type-methods where a high degree of learner interaction and co-creation is desired.

Effect on Motivating Course Completion

Time delimited/instructor support keeps focus and higher chance of completion. Completion and certificate of completion may be motivations for completion.

Ease of Implementation, Operational Requirements

Requires the development of curricular materials and training of trainers.

Uses These Kinds of Technologies

Paper or electronic handouts, textbooks, projectors, whiteboards, and any artifacts needed for peer to peer activities (paper, pens, etc.) Can use recording devices to record and reuse presentations.

Costs / Resource Requirements

Development costs upfront include content development and training of trainers, with some ongoing costs to revise content and monitor/evaluate trainers. The use of open format electronic documents shared through open licenses would lower the barriers to learning providers' customization & updates. Logistical and workshop leader costs continue for each workshop. Participant travel costs will vary by context.

Most Suitable Scenarios

Scenarios in which

- large set of learners already on site and instructor can visit them;
- learners have no access to technology or likely alternatives for online delivery;
- there is a high degree of skepticism towards online learning
- material to be learnt is not well suited to online delivery (e.g. has a high degree of "affective content" or requires a high degree of trust quickly amongst learners)
- main motivator for learners is opportunity to travel to training
- there is a need to build social relationships between people and there may be no preexisting trust
- opportunistic piggybacking on another event

Compatibility with existing Learning Training Provider Capacities

The majority of learning providers are likely very familiar with this model and have capacities to do it. The question may be if the trainers are perceived adequately as experts and trusted teachers (per the survey data emphasizing the importance of this).

Favors centralized creation of content and perhaps instructional design with the option for localization. Favors distribution vs centralization in terms of deployment.

Supporting Business Models

- Sponsored/grant funded
- Pay by participant or by employer
- Good for depth and certification, but less scalable without a well-positioned set of learning providers.

Examples

The face-to-face introduction to the domain workshop provided by the organization. This workshop is always tailored to the specific objectives of the participants. Dialogue between different types of stakeholders is often an integral part of the workshop

MULTI-WEEK/TERM-LENGTH COURSES (MULTI-SESSION, CREDENTIALED)

Description

Similar to F2F workshops, but extending over a longer period of time. These may be workplace training or in an academic setting. Longer formats allow for additional readings and activities to happen in between sessions, for building greater rapport between learners and between learners and instructor, and can work well for curriculum that is lengthier and cannot effectively be split into smaller chunks that would have value on their own. It is the most common format in traditional formal education. If partnering with academic institutions, this would be the preferred format.

Learner Accessibility/Requirements

Longer duration, either multiple sessions spread over time or else longer continuous session than workshop, means that it is unlikely suitable in scenarios where learners must travel. Best either delivered on site or by a local institution in a dense enough area of need to make it profitable for them to deliver.

Scalability Implications

As above, though potentially even more limited as it really only works in settings where the learning providers can attract a large number of learners from their immediate geographic proximity

Quality Implications

Similar to workshops. Also, if a course is under the sponsorship of an institution that has good quality mechanisms in place, some quality assurance could be provided.

Adaptability (between mediums; between versions; between learning providers/contexts)

Basic static content materials developed for F2F workshops may be shared online reasonably easily. Their effectiveness may be lessened to the extent to which they required F2F or instructor interventions that may be difficult to replicate in online environments.

Addresses Which Learning Objectives Most Effectively

Best used in where the learning has a high affective/interpersonal nature, or involves psychomotor skills. Is often used for more cognitive-based learning, but is a resource-intensive and inefficient method of conveying basic concepts, facts or procedures.

Accommodates Which Types of Learning Activities Most Easily

With the use of subgroups, can be useful for collaborative and application types of learning.

Effect on Motivating Course Completion

Time delimited/instructor support keeps focus and higher chance of completion. If working for a grade or certificate, there may be additional incentives. Longer form online offerings tend to have more attrition that short form offerings, so should be targeted at fairly motivated learners.

Ease of Implementation, Operational Requirements

Low level of requirements to implement beyond the development of curricular materials and recruitment of instructors or training of trainers for scale.

Uses These Kinds of Technologies

Same as for workshops.

Costs / Resource Requirements

Similar to workshops only higher investment and requires infrastructure for longer time periods. (I.e. classrooms vs renting a workshop venue). Brad Beach[1] formerly a manager at GIPPSTafe in Australia, one of the leading online learner providers, suggests that the cost calculations are a factor of content development and curriculum design, then the actual teaching days to deliver. He estimates for each day of face to face teaching you spend between $20,000 and $30,000 USD for the package: content, design and teaching. Of course there is large variability in the complexity of content and depth of teaching. Non facilitated models require a bigger up front cost and a lower delivery cost. Highly facilitated models require less up front preparations and facilitators generally keep their own content up to date.

Most Suitable Scenarios

- need for the legitimacy of an educational or training institution,
- uses and builds upon existing resources (place, people, curriculum, infrastructure)

Compatibility with existing Learning Training Provider Capacities

Good for partnering with formal educational institutions. May have less perceived legitimacy if offered by a non-academic institution. Favors distribution vs centralization in terms of deployment. Favors centralized creation of content and perhaps instructional design with the option for localization.

Supporting Business Models

- Pay by participant,
- Pay by employer
- Initial funding from donor but not sustainable.

Examples

Boulder Institute of Microfinance (www.bouldermicrofinance.org): "The Boulder MFT program provides participants with a three-week technical immersion experience focused on sustainable microfinance, and the creation of a community that will have an enduring influence for years to come.

Participants join together with expert faculty and step outside of their day-to-day work to reflect, analyze, and debate microfinance issues, trends, and new topics. With participants and faculty arriving from around the globe, the Boulder learning environment offers a diversity of perspectives and experiences which are critical to the industry, developing and furthering the careers of microfinance leaders for today and beyond."

[1] Personal correspondence.

COMPARISON OF FACE TO FACE METHODS

	F2F workshops (short, one-off)	**F2F Courses (multi-session, credentialed)**
Learner Accessibility (Time, Infrastructure, technical literacy)	short time requirement; possible travel	longer time requirement; travel requirement or else large local cohort needed
Scalability Potential	low; via multiple offerings	low
Quality Control Implications	high; instructor variability	high; instructor variability
Adaptability	medium	medium
Best for these kind of learning objectives	affective/interpersonal, psychomotor	affective/interpersonal, psychomotor
Best for these types of learning activities	collaborative application,	collaborative
Motivates Course Completion	yes	yes
Ease of Implementation, Operational Requirements	easier	easier
Uses these kinds of technologies	handouts, textbooks, projectors, whiteboards, and any artifacts needed for peer to peer activities (paper, pens, etc.)	handouts, textbooks, projectors

ONLINE LEARNING METHODS

The term "online learning" covers a *wide* variety of approaches. Online approaches assume computer access and internet connectivity and thus may not be universally accessible. Where these conditions exist, and with the ability to serve large populations of users from centralized instances, these approaches hold the best potential for working at a larger scale. As with all of the other methods considered, it is unlikely that online delivery is the sole solution, but rather one component. With proper preparation, online content and courses can be repurposed to serve a number of the other delivery methods too.

In this report we considered the ten following online delivery methods:

Traditional Online Courses

- Online cohort-based course, instructor led, time-delimited

- Online course, self-paced, open timeline
- Supported Open Learning

MOOCs, Communities & Self-Directed Learners

- MOOC (Massive Open Online Course)
- Self-directed/informal learning
- Online Communities & cohorts

Synchronous Learning

- Synchronous Webinars
- Synchronous Tutoring or Coaching
- Online Mentoring
- Online JIT/ Workplace performance support

Generally speaking, these models are differentiated by a combination of some of the following variables:

- Is the course instructor led or self-directed?
- Is the course cohort-based or individually driven?
- Is the learning delivered synchronously, asynchronously, or a mixture of both?
- Is the learning delivered separate from specific workplace systems and contexts, or is it deeply integrated into these?
- Is the training focused on global concerns or highly contextual materials?
- Does it require an ongoing support relationship?

TRADITIONAL ONLINE COURSES

ONLINE COHORT-BASED COURSE, INSTRUCTOR LED

Description

The most conventional model in formal education, where the f2f classroom has been shifted into a virtual LMS-based classroom. Offline curriculum is repurposed for online delivery to a defined cohort of learners.

Learner Accessibility/Requirements

Typically aimed at longer courses (weeks-months) but may only require a few hours a week of learner time. No requirement for learner travel. Requires internet connection, computer, suitability of the learner to learn in an online environment (see numerous self-assessment tools.[2]) Potentially higher bandwidth requirements depending on the learning activities chosen.

Scalability Implications

The constraint to scalability is the need for an instructor to lead the cohort. The way to scale this is by allowing learning providers to easily replicate the courses for multiple cohorts, either in their own delivery environments or on a centralized platform provided by the organization or other partners.

[2] e.g. http://www.quia.com/sv/539233.html or http://www.unc.edu/tlim/ser/

Quality Implications

Quality control can be applied by the organization to the content. The variable is the instructor and possibly the local delivery environment. This can be mitigated by partnering with trusted learning providers and potentially training and/or certifying instructors.

Adaptability (between mediums; between versions; between learning providers/contexts)

Migrating course content between different learning environments is complicated. There are standards that have been developed to support content portability between systems, such as SCORM and IMS Common Cartridge, but these are unevenly supported between different technology platforms meaning a course developed on one may well not migrate properly to another.

With proper forethought, appropriate content development environments can be used that allow output in multiple formats (print, offline, online.) Content formats and content development environments can be selected based on their support for versioning and collaborative editing, localization and adaptations and continuous improvements of the content.

Instructor-facilitated offerings can hinder reuse and adaptation. The Open Education Resource[3] movement has experienced this problem in post-secondary education. This may be less of an issue with more specifically "training" focused materials which may require less instructor customization and ownership.

Addresses Which Learning Objectives Most Effectively

Online, instructor-led, cohort based courses are often used for developing cognitive skills. They can also be made teach interpersonal skills. They are not particularly well suited for teaching psychomotor skills.

Accommodates Which Types of Learning Activities Most Easily

Works well for expositive methods and collaborative methods, and can also work well for application methods that are not hands on or Just-in-time in nature.

Effect on Motivating Course Completion

Learner motivation will be dependent on the relevance of the content to the learner, facilitation, quality of content and instructional design. As in F2F courses, these have significant impact on motivation and completion. Also, completion towards a certificate or degree may provide different learner motivation than "I need to know this to get my job done" motivation. So the needs of the learner and how carefully the offering is crafted to respond to those needs is also important on motivation and completion, regardless of delivery method.

Ease of Implementation, Operational Requirements

The ease and cost of implementation of this approach can be complicated by many factors: the type of learning activities needing to be developed, the amount of portability and reusability required, and/or the choice of specific delivery platform (e.g. Learning Management System.) Some of this can be mitigated with a model where different learning providers share a delivery platform, core content and facilitation strategies. It might be difficult to gain full consensus across all learning providers.

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[3] For more information: http://en.wikipedia.org/wiki/Open_educational_resources

Uses These Kinds of Technologies

Most online courses use Learning Management Systems (LMS), which typically include discussion forums, course content, assessment tools, gradebooks and submission tools. These can be commercial or open sources, hosted as a cloud service or self-hosted.

Costs / Resource Requirements

High initial investment for content and instructional design (Catholic Relief Services e (CRS) estimates $40-50,000 US dollars for each of their 5 modules from design through testing, production and initial deployment including some translation) but dramatic reduction in cost per learner subsequently. CRS has a hosted LMS which costs $3 per learner per year. (Note: their current provider is looking to sell their technology, which raises the issue of risk of changes in underlying technologies and their providers.) FAO estimates $5000-6000 Euros for every 30 minutes of self-paced e-Learning produced.

Most Suitable Scenarios

Scenarios in which the real and perceived value of a recognized expert/teacher is needed to legitimize the effort, where participants are used to formally sequenced materials and activities, and where student tracking/grades are needed.

Compatibility with existing Learning Training Provider Capacities

Favors both centralization and distribution in terms of deployment. Favors centralized creation of content and perhaps instructional design with the option for localization. Could favor centralized hosting of the LMS.

Supporting Business Models

As a partnership: i.e. the organization can sponsor content and instructional design, another partner sponsor the platform, and then marketing/course management/deployment by learning providers. Ongoing costs recovered through learner payment, employer sponsorship, grants --> or a mix of payment models. Can be aggregated into a certificate (see http://www.globalhealthlearning.org/certificate-programs for an example)

Examples

- UNITAR's courses http://www.unitar.org/pft/elearning and specific example http://www.unitar.org/applications-open-e-learning-course-web-20-development-0 and http://www.unitar.org/event/innovative-collaboration-development
- A certification example: http://www.globalhealthlearning.org/certificate-programs

ONLINE COURSE, SELF-PACED

Description

Learners register for and progress asynchronously through self-paced online modules. The most common format within conventional online "training," these courses are typically delivered through an LMS that tracks and reports on learner progress. Typically, there is no learner-to-learner or learner-to-instructor interaction, however some projects have paired self-paced courses as prerequisites for F2F offerings or offered an online support community to learners. Often relies heavily on formative evaluations to pace learner's progress through materials. Content can be delivered via text, images, audio, video, animations and supported with interactive activities, quizzes and tests.

Learner Accessibility/Requirements

Self-paced courses have the potential to offer a great deal more flexibility for learners to choose start times because they do not require either an instructor or a cohort of learners. They have the potential to be used for courses of many different lengths, from short 1 hour lessons to multi-module courses. The length may vary based on the learner's own rate of progress. Requires internet connection, computer, suitability of the learner to learn in an online environment (see numerous self-assessment tools). Potentially higher bandwidth requirements depending on the learning activities and content formats chosen.

Scalability Implications

Because of the lack of requirement of a cohort or instructor support, these have the potential to scale to a high degree. The main limitation is the learning providers' technical capacities and capacity to attract learners. They can be done in both a centralized and distributed fashion (both content and delivery platform), offering the benefits of economies of scale as well as diversity of delivery partners.

Quality Implications

Given the focus on content and the possibilities of central scaling, this model holds perhaps the best opportunity to centrally control most of the elements of quality. When paired with pre-course self-assessments, these courses can be tailored to deliver the content most needed/wanted by the learner by suggesting various learning paths or combinations of modules.

Adaptability (between mediums; between versions; between learning providers/contexts)

Migrating course content between different learning environments is still complicated. The standards that have been developed to support this are unevenly supported between different delivery environments.

Addresses Which Learning Objectives Most Effectively

Self-paced courses most often focus on the development of cognitive skills and information transfer, although with proper consideration of the learning activities can also teach some amount of interpersonal and psychomotor skills through the use of interactive simulations.

Accommodates Which Types of Learning Activities Most Easily

Works best for expositive methods but can also be used for many application methods.

Effect on Motivating Course Completion

When preceded by a pre-assessment and learner customization option, learners can focus on what is most relevant to them, potentially motivating engagement and completion. The quality of the instructional design and interactive elements, moving beyond clicking between pages, can be an important element.

Ease of Implementation, Operational Requirements

Depending on the scale of a centralized delivery, setting up and maintaining this kind of environment 24/7 can be expensive and challenging. There are luckily many existing service providers who could provide the underlying infrastructure. Self-paced online courses take significant upfront design and development effort as there is no instructor to intervene and support the learner where there is confusion. Extensive analysis of the learning outcomes and appropriate learning activities needs to be performed in the planning phase. A good reference on this is the FAO E-Learning guide.

Uses These Kinds of Technologies
Learning Management Systems, which typically include course content, quizzes and tests.

Costs / Resource Requirements
Cost is primarily upfront and in the ongoing LMS provision costs. The content development costs are similar to instructor based courses, though the overall cost for delivery will be much less because no instructor is required.

Most Suitable Scenarios
Where learners don't need the presence of an expert/instructor for motivation, where learners need flexibility of when they learn, for self-motivated learners, especially where there are options for pre assessment and customization. In some of these contexts, peer to peer discussion can be loosely incorporated, or the self-paced offering can be a prerequisite for more focused or in depth facilitated offerings (online or F2F).

Compatibility with existing Learning Training Provider Capacities
Favors centralization of content and platform…. use economies of scale to capture a broad and diverse audience. Generally, less customizable at the local level, but can be paired with local offerings (i.e. get the introductory basics online, then go deeper at a F2F training.)

Supporting Business Models
Same options as online cohort based but would have a lower per learner cost to amortize.

Examples
- IMARK Modules http://www.imarkgroup.org/modulesintro_en.asp
- Monitoring and evaluation e-Learning offerings http://mymande.org/elearning
- Global health e-Learning offerings http://www.globalhealthlearning.org/
- Catholic Relief Services WeeJee-Learning converted from F2F training to self-paced online modules http://weejeelearning.com/non-profit-employee-training/

SUPPORTED OPEN LEARNING

Description
This term was invented by the UK Open University, course materials and enrollment are made as openly accessible as possible to facilitate greatest amount of flexibility and choice by learner, but support is available, typically in the form of mentors or instructors, so that the learner is not completely on their own.

Learner Accessibility/Requirements
Potential for both longer and shorter courses. As in all online cases, requires learner to have computer and internet access. Has a slightly higher requirement for learner self-sufficiency.

Scalability Implications
The constraint to scalability here is access to mentors/instructors, but as it is not a dedicated cohort model, this can scale much better than traditional online cohort-led courses.

Quality Implications

There is a high degree of control over content quality as it can be delivered centrally; any variability is in the quality of support from mentors. Mentors could be trained and certified at additional costs. Evaluation of mentors is recommended.

Adaptability (between mediums; between versions; between learning providers/contexts)
Content developed in this model could be repurposed to serve self-directed online learners. As with other online course formats, there is the possibility of creating it so that it can be output to different modalities (offline, print, mobile). Similarly, it suffers the same challenges of porting the content to different brands of LMS as other online learning options.

Addresses Which Learning Objectives Most Effectively
Most often focused on the development of cognitive skills and information transfer, although with proper consideration of the learning activities can also teach some amount of interpersonal and psychomotor skills through the use of interactive simulations.

Accommodates Which Types of Learning Activities Most Easily
Can work for all three types of activities, though most often focused on Expositive methods.

Effect on Motivating Course Completion
The addition of mentors contributes to learner success. Otherwise similar to self-paced online courses.

Ease of Implementation, Operational Requirements
Similar challenges to implementing "Online Course, self-paced" but with the added complexity of on-demand access to tutors.

Uses These Kinds of Technologies
Learning Management Systems, which typically include course content as well as quiz and test tools. Synchronous chat tools such as IM, Skype and asynchronous forums can support the tutor/student interactions.

Costs / Resource Requirements
Costs are in between the "Online cohort-based, instructor led" and "Online course, self-paced," as it is similar to the latter but does require some staffing to support the learning, though not as much as a full instructor-led course.

Most Suitable Scenarios
Similar to self-paced learning but a stronger emphasis on flexibility, just in time learning and access to peers and tutors. Could be adapted to workplace performance support, certification, etc.

Compatibility with existing Learning Training Provider Capacities
Favors centralization of content and platform. Uses economies of scale to capture a broad and diverse audience. Less customizable except through tutor support where the actual support mechanisms could be local/distributed and allow for customization and localization.

Supporting Business Models
Same options as online cohort and online self-paced options.

Examples

The originator of the model is the UK's Open University, who describe it in detail here http://www.open.ac.uk/about/main/the-ou-explained/teaching-and-learning-the-ou

Similarly, the Open Training College based in Ireland uses a similar model, which it documents here http://www.opentrainingcollege.com/site/our-approach/how-you-learn/. A useful illustration of it can be found at http://www.opentrainingcollege.com/site/wp-content/uploads/2009/05/sol-may-09revised.jpg .

COMPARISON ACROSS ONLINE COURSE DELIVERY METHODS

	Online course cohort-based, instructor led	**Online course, self-paced**	**Supported Open Learning**
Learner Accessibility (Time, Infrastructure, technical literacy)	longer time requirement; internet/computer	shorter time requirement; internet/computer	indeterminate length; internet computer
Scalability Potential	low because of need for instructor	high	medium
Quality Control Implications	high	high	high
Adaptability	medium	medium-high	medium-high
Best for these kind of learning objectives	cognitive, affective/ interpersonal	cognitive	cognitive
Best for these types of learning activities	expositive, application, collaborative	expositive, application	expositive, application, collaborative
Motivates Course Completion	yes	no	yes
Ease of Implementation, Operational Requirements	difficult	difficult	more difficult
Uses these kinds of technologies	LMS	LMS	LMS

MOOCS, COMMUNITIES & SELF-DIRECTED LEARNING

MOOC (MASSIVE OPEN ONLINE COURSE)

Description

Initially this term was coined in 2008 to describe what is now known as "ConnectivistMOOCs (or "cMoocs"). (For a useful history of MOOCs, see http://edtechfrontier.com/2013/05/11/the-pedagogy-of-moocs/) Unlike conventional courses in which there is a set curriculum and standardized learning outcomes, cMOOCs were built to reflect a "connectivist" theory of learning, which believes that in a world of ever expanding knowledge and network connectivity, situating the learner in a real-life learning network and modelling and sharing how others in that domain space learn is equally, if not more, valuable than content and learning-outcome focused approaches.

While cMOOCs often have course leaders and specific timelines and themes for each work, they often do not have one central space in which all learning interactions occurs. Instead learners are encouraged to use their own spaces and build their own networks, which are then aggregated into central areas through technologies such as RSS and hashtags. Many of the early cMOOC experiments were "massive" in attracting 2000+ participants, and "open" in both the sense of having no barriers to participation but also readable and reusable by all, typically through the liberal use of Creative Commons licenses and free web services.

In 2010 the term MOOC was adopted by a group of commercial startups to describe what are essentially large-scale, online, self-paced courses, which are occasionally cohort-based. These have also become known as xMOOCs. The "open" portion of the name refers only to there being little or no barrier to entry; unlike the earlier cMOOCs these courses typically do not encourage or allow reuse of their curricular materials, and do typically require some form of (free) course registration. They are "massive" in often attracting thousands of initial learners, however like cMOOCs they have suffered from high attrition rates (often less than 10% completion.[4]) However, unlike cMOOCs there is typically a very standardized curriculum supplemented by automated grading technologies or other approaches (like peer-grading) meant to provide for scalability.

Learner Accessibility/Requirements

To date these have typically been 6-10 week long courses; in the case of cMOOCs, this is perhaps one of the main differences between them and more traditional "online communities" or communities of practice which are typically open ended, yet share many of the flavors of being learner driven and focusing less on set curriculum, more on the shared creation of knowledge.

Scalability Implications

In theory, one of the main issues MOOCs address are scale, hence the "Massive" in their name. The original cMOOCs numbered 2000+ participants (of greatly varying degrees), while the xMOOCs boasted of initial sign-up numbers over 100,000. There are however, two large caveats. The xMOOCs that have been able to launch at that scale have inevitably been in computer science, math or other hard science, and have focused on knowledge areas that are already well defined and content is uniformly transferrable, versus negotiated. Thus they have been able to implement machine-assisted grading to cope with the sheer number of participants. Yet even with this consideration, they have been plagued by the other caveat - very low completion rates. Current

[4] cf http://www.insidehighered.com/news/2013/05/10/new-study-low-mooc-completion-rates

xMOOCs rarely rise above 10% completion rates, and some as low as 2%.[5] It is questionable whether this model can thus claim to represents a sustainable model in the long run as the majority of current xMOOCs have been run by venture-funded private entities or else well-endowed Ivy League schools. Currently it has marketing cachet.

Quality Implications

In theory, the content for a MOOC has the same advantages and challenges as content for any online learning course, though because of the typical lack of instructor support in xMOOCs, it requires greater effort to make sure unsupported learners can keep proceeding through the course if they hit difficult parts. Content can be quality controlled centrally and learner satisfaction can be assessed both from completion rates and other monitoring and evaluation strategies such as surveys.

Adaptability (between mediums; between versions; between learning providers/contexts)

xMOOCs have the potential for their content to be more adaptable to diverse delivery formats, though in the current model there are three very different platforms from the three major players (Coursera, Udacity and EdX), none of which provide content exportability or interoperability with the others or with existing LMS.

The general model of a cMOOC is quite adaptable. However, as they are not heavily content-centric, they require a good deal of effort by the instigators to seed the learner network with activity and support subsequent discussions with up-to-date, relevant content.

Addresses Which Learning Objectives Most Effectively

In both models, the focus has been largely on Cognitive learning, though in the case of cMOOCs, because of the emphasis on connection with other learners, there is the possibility of much affective/interpersonal learning occurring, both by design and as a secondary outcome.

Accommodates Which Types of Learning Activities Most Easily

All three types of learning activities can occur in an xMOOC.

Effect on Motivating Course Completion

In both the cMOOC and xMOOC models, course completion is very problematic. In the case of cMOOCs, they explicitly resist a set curriculum, hoping the learner gets what they seek, not what an instructor decides constitutes learning. They typically experience a high drop off in participation after the initial weeks.

In the case of xMOOCs, there is more clearly a curricular path towards completion, but to date they have exhibited very low completion rates (typically under 10%[6]) and require highly motivated learners.

Ease of Implementation, Operational Requirements

Both are extremely non-trivial to implement. In the case of cMOOCs, while certain instances have used more traditional learning technologies like LMS and discussion forums, many have attempted to model the learning networks they seek to create by using distributed, decentralized approaches. These are fragile by nature and

[5] http://www.katyjordan.com/MOOCproject.html
[6] http://www.katyjordan.com/MOOCproject.html

also run the risk of being confusing to novice learners, particularly those who are not used to a variety of online tools. Many of the tools have higher bandwidth requirements.

In the case of highly automated xMOOCs, partnering with an existing entity would likely be the only way to proceed. While edX has open sourced part of their delivery system, there are no readily available "MOOC delivery platforms" available to implement on one's own.

Uses These Kinds of Technologies

Varies - many of the current commercial providers (e.g. Coursera, Udacity - aka xMOOCs) have built bespoke LMS-like environments, sometimes including robo-grading to cope with scale. Others (typically of the cMOOC variety) are using a loosely-coupled approach that uses aggregation technologies like RSS combined with social media tools like Twitter & Facebook, as well as synchronous tools like Blackboard Collaborate, Skype and Google Hangouts.

Costs / Resource Requirements

The cMOOC model, as it doesn't focus so much on core curriculum but instead on creating learning networks using existing free infrastructure, is inherently less expensive to do, though it typically suffers (by design) from a less centralized focused and thus has raised questions if it is applicable to all types of learning or learners.

The xMOOC approaches typically have very large overhead; typically $100k and upwards for course development, as well as extensive infrastructure, both software and servers, to deliver.

Most Suitable Scenarios

cMOOCs are not dissimilar to "communities of practice" (with perhaps the exception of intended scale - CoPs being generally smaller) and thus are most suitable for scenarios that deal with highly motivated learners with good network access. Because they aim at helping a learner transform themselves based on their current needs and interests in relation to what is more widely accepted as the body of knowledge they must master, as opposed to following a set curriculum, they are not particularly appropriate for "training" scenarios in which a rigid set of outcomes is prescribed.

xMOOCs on the other hand have a much larger potential as a training mechanism as they function quite a lot like conventional online courses. However, given their heritage within formal higher education, they still very much are modeled on longer "courses" of 6-10 weeks in duration, and so may not be suitable in this format for smaller training needs.

Compatibility with existing Learning Training Provider Capacities

Favors centralized deployments in order to reach massive scale.

Supporting Business Models

Business models are incredibly uncertain for MOOCs; the commercial startups that are offering them are either looking towards charging for alternative certificates or revenue sharing with educational partners as potential models, though neither of these seem like paths to profitability for these companies and it is speculated that they represent another technology investment "bubble."

In the case of edX (and to some extent the cMOOCs) the business model is simply one of buttressing existing brand names (e.g. Ivy League schools) and potentially converting free learners into paying ones.

In both cases, it is speculated that there is value in the large amount of data being collected about learners and how they interact with the curriculum, though this has yet to be shown.

AMI Business MOOC[7] in Africa's business model: Our revenue model The AMI MOOC will initially be offered on a 'freemium' basis in partnership with Africa's leading business schools and disseminated through the AMI Virtual Campus. While all learning will be free, students will pay a small fee if they want a certificate of completion from AMI and its partner schools, providing a revenue stream to help support future courses. The certificate will be provided by AMI in association with our business school partners.

Examples

- An early example of the cMOOC type is the CCK 2011 course on "Connective Knowledge" (http://cck11.mooc.ca/)
- An example of an xMOOC-type from Coursera is the "Sustainability of Food Systems: A Global Life Cycle Perspective" course (https://www.coursera.org/course/globalfoodsystems) delivered by their partner at the University of Minnesota.
- Another xMOOC example from edX, a consortium of Ivy-league schools, is "The Challenges of Global Poverty" (https://www.edx.org/courses/MITx/14.73x/2013_Spring/about) delivered by edX partner MIT.
- MOOCs in Africa http://www.africanmanagers.org/free-online-learning-ami-develop-africas-first-mooc

SELF-DIRECTED/ INFORMAL LEARNING

Description

Wikipedia defines informal learning as "widely used to describe the many forms of learning that takes place independently from instructor-led programs.[8]" As such, the learner sets their own pace and chooses what they need to learn. By definition, this type of learning does not follow a set curriculum and does not lead to any certificate or credential, although a badging strategy could be applied. However, it is an important facet of any learner's life and CAN be supported by, for instance, the sharing of Open Educational Resources in publicly available sites or repositories that permit discovery by any interested learner.

Learner Accessibility/Requirements

This has no time limit as it is completely self-directed. Assumes computer access and connectivity as well as a high degree of self-motivation. The learner needs to have some idea of what he or she is looking for.

Scalability Implications

In theory this is infinitely scalable as anyone can be an informal learner. In practice, not everyone is comfortable as an independent self-directed learner, and because of its nature, it also may well not achieve the specific training outcomes amongst a targeted population of learners.

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7 http://www.africanmanagers.org/sites/default/files/AMI%20MOOC%20for%20managers%20April%202013_1.pdf

8 http://en.wikipedia.org/wiki/Informal_learning

Quality Implications
While control can be maintained over the quality of materials shared, there is little other control in this model, as there are few supports provided.

Adaptability (between mediums; between versions; between learning providers/contexts)
Content provided in content repositories for self-directed learning can also be deployed for any of the structured learning offerings.

Addresses Which Learning Objectives Most Effectively
In theory people can and do learn in all of these areas informally and through self-direction, although as with all online learning, there are challenges to learning psychomotor skills solely online.

Accommodates Which Types of Learning Activities Most Easily
Not applicable

Effect on Motivating Course Completion
There is no course to complete, and this this "approach" assumes a high degree of learner motivation.

Ease of Implementation, Operational Requirements
As the requirement to implement this is really the open sharing of materials, depending on the volume this can be as small as a website and as large as a database-driven repository.

Uses These Kinds of Technologies
Content management system, personal learning environments. Content could be accessed online, via mobile technologies or repurposed to offline CD ROMS and even paper libraries at some cost.

Costs / Resource Requirements
While this approach likely will not be the primary focus of any training initiative, it is possible that simply through the adoption of Open Licenses and the sharing of existing materials on the open web, this can be implemented for low cost. It can build on the early work of an organization and other partners' sites.

Most Suitable Scenarios
Used by learners who decide what they want to learn then search for it on the web either via content and/or via social networks of people who might know what they want to learn. There is no sequence, no certification. However, this could be leveraged with a gaming or badge scheme to connect to some sort of certification (and this shows how some of these concepts cross over between themselves!)

Compatibility with existing Learning Training Provider Capacities
learning providers are not generally content providers, so minimal role in terms of delivery, but they make take advantage of using the same content that self-directed learners use.

Supporting Business Models

Free materials funded and hosted by donor/MI Facility/University or other partner. Development costs from donor or sponsor. Updating will require additional funds so probably a maintenance contract. Harder to get fee-for-use for this model.

Examples

Look at all the microinsurance related YouTube videos as a small example of existing content in a specialized domain that could be mobilized.

- https://www.youtube.com/results?search_query=microinsurance&oq=microinsurance&gs_l=youtube.3..0.55264.56969.0.57052.14.8.0.6.6.0.150.515.7j1.8.0...0.0...1ac.1.11.youtube.Czm9DJWp2mchttp://www.africanmanagers.org/free-online-learning-ami-develop-africas-first-mooc
- http://www.systemswiki.org/index.php?title=Adventures_in_Wonderland

ONLINE COMMUNITIES & COHORTS

Description

Generally of interest to self-directed learners who seek out others with similar interests to learn with. Rather than being a form of "training" it is better to think of these as ways of "learning" - one of the main differences between this and specific delivery modes of "training" is that there is typically no set curriculum - some communities will themselves evolve knowledge bases and potentially even courses, but typically learners become involved with them because they are comfortable learning independently and seek fellow learners to interact with. There is typically a focus both on the content (domain), the practice involved, and the relationships between members.

Learner Accessibility/Requirements

Typically ongoing and open ended, though both online communities and communities of practice (CoPs) may hold specific one-time events as a way of focusing on a topic of common interest.

Scalability Implications

The line between online communities and cMOOCs is pretty fuzzy, and perhaps what divides them is this question of scale and time limitations. Online communities will take place in a specific community "space" online and exist over an open-ended time frame. Some of these end up being very large, but there can be a limiting factor on size. Contrasted with this is the distributed cMOOC model that because it is potentially spread over any part of the Internet and any "spaces" are created dynamically through the aggregation of content from other sources, has the potential to function at much larger scales.

Online communities are rarely fully self-managed; there is an important role for a community steward or facilitator. These are individuals with obviously limits on their time and energy, and so their absence or numbers relative to the size of the community may also be a limiting factor."

Quality Implications

Quality can be supported through the provision of a good platform on which the community can work, the provision of learning resources and activities to the community and the support of a community facilitator. Ultimately, none of these will guarantee the success of an online community nor the quality of any individual learner's experience of it, but they can go a long way to helping such an effort sustain itself. Quality and impact are difficult to assess.

Adaptability (between mediums; between versions; between learning providers/contexts)
The approach of online communities can provide models and patterns for others to adapt, but in general it cannot be immediately re-purposed and is not strictly a content-centric approach. Communities can be usefully paired with content repositories.

Addresses Which Learning Objectives Most Effectively
Community spaces can certainly provide support for cognitive learning, but given their inherently social nature, they also offer strong affordances around interpersonal learning objectives.

Accommodates Which Types of Learning Activities Most Easily
Any of these types of activities can take place in the context of an online community, though these are not typically structured explicitly around instructional interventions.

Effect on Motivating Course Completion
Online communities are typically open-ended, and so the idea of "completion" doesn't really apply. That said, maintaining community activity and membership can often be a challenge, one which a skilled community facilitator and forethought about community design can greatly assist with. Communities often have natural life cycles and ebb and flow over time.

Ease of Implementation, Operational Requirements
There are many existing community platforms, both services and software, that can be implemented for fairly low cost, both free, paid, hosted or self-hosted. The challenges are more often in attracting and fostering the community and maintaining it long term. In addition to whatever technical infrastructure, as mentioned elsewhere, having dedicated a dedicated community facilitator can greatly assist with long term sustainability and success.

Uses These Kinds of Technologies
Informal cohorts might use many technologies, from simple email to Facebook or Google groups as a way to communicate. Online communities use some form of community platform; in some cases this might be a learning management system, but more often it is software like Ning or Drupal that contains the ability to host discussions, share materials, display participant profiles and encourage discovery of other members. A good rule of thumb for communities is to use platforms members already regularly use for other interactions.

Costs / Resource Requirements
Likely under $10k per year for community environment, with variability of total cost based on additional number of communities, with other elements (content, community facilitator) centrally provided.

Most Suitable Scenarios
Used by groups of learners to do what a self-directed learner might do by him/herself. So this layers self-directed learning with peer learning. These may be formally organized, loose, ad hoc, etc. The more distinct the boundary of the cohort/community, the more one moves towards what might be thought of as communities of practice or learning.

Compatibility with existing Learning Training Provider Capacities

Could favor centralized or distributed model if global partners and learning providers have or have an interest in hosting the cohorts. Content could still be centralized or can also be localized both by learning providers and potentially by learners --- which could then feed back into the learning providers localized content based. Good strategy for using learner engagement to build a program.

Supporting Business Models

1. Companies and associations could sponsor cohorts.
2. Donor funded. Probably not a pay-for use model. Fairly low cost beyond facilitation, which could be an in=kind contribution, but ROI for sponsor is reputational, not financial.

Examples

Learning journeys organized by existing CoPs.

- http://www.fullcirc.com/2013/01/07/virtual-tours-of-online-communities-as-learning-journeys/
- http://2013dl.sched.org/event/f385390c2fe5728933939b3fc4936a29#.UX6kHLVfF8s

COMPARISON OF MOOCS, COMMUNITIES & SELF-DIRECTED LEARNING

	MOOC (Massive Open Online Course)	**Self-directed/informal learning**	**Online Communities & cohorts**
Learner Accessibility (Time, Infrastructure, technical literacy)	long time requirement, computer/internet, high degree of technical literacy	no time limits; computer/internet	no specific time requirement; computer/internet
Scalability Potential	high	high	medium
Quality Control Implications	high	high; instructor variability	variable
Adaptability	xMOOCs - medium cMOOCs - low	n/a	low
Best for these kind of learning objectives	cMOOCs: cognitive, affective/ interpersonal xMOOCs: cognitive	cognitive	cognitive, affective/ interpersonal
Best for these types of learning activities	all three types of learning activities can occur in a mooc.	not applicable	not applicable
Motivates Course Completion	no	no	no
Ease of	more difficult	easier	difficult

Implementation, Operational Requirements			
Uses these kinds of technologies	varies	CMS; personal learning environments	community platforms; google groups

SYNCHRONOUS METHODS

SYNCHRONOUS WEBINARS

Description

Synchronous webinars are short, 60-90 minute sessions that take place in a synchronous online environment such as Blackboard Collaborate, WebX, Zoom, Big Blue Button or Google Hangout. These environments often contain some facility for posting slides, allowing text chat, voting and web tours. Webinars may involve a single speaker being broadcast, or can involve multiple people in a discussion or other learning activities. They can be a central delivery method or paired with asynchronous interactions and used in a variety of larger contexts (i.e. course, MOOC, CoP, etc.)

Learner Accessibility/Requirements

A short (1-2 hours) time is required from learners. In addition to a computer, learners will need a higher quality internet connection, a computer with sound card, microphone and speakers, and may also require the latest version of supplemental technologies like Java or Flash to be installed on their computers. This is problematic with users with older computers or in corporate environments that do not allow software downloads. In that case the use of browser based tools is essential.

Scalability Implications

While in a broadcast model this method has the potential to scale to hundreds (potentially thousands) of simultaneous users, more typically these environments host discussions that are around the same size as standard f2f cohorts, e.g. 25-50 people, and often are most engaging with groups from 6-15.

Quality Implications

Quality is largely derived from the quality of the presenter, the design of the webinar, and the learner interactions they promote. Quality becomes difficult to scale if many webinars with different speakers is the model used to scale, though a single speaker broadcast to large groups can help overcome this. Technological problems, particularly those around sound with diverse end user machines and bandwidth, can significantly degrade the experience if not supported properly. Learner satisfaction is often assessed with an immediate post-webinar survey.

Adaptability (between mediums; between versions; between learning providers/contexts)

Webinars can be recorded for later replay, allowing time-shifting for global audiences and repurposing of content. While this may remove some of the interactivity of the live session, it does mean they can reach a larger audience. That said, both the initial live delivery and later recordings are largely NOT adaptable by future

users or learning providers unless they are edited and properly packaged as few people will sit through a 60 recording. Presentations are more easily repackaged that webinars that were focused on learner interaction.

Addresses Which Learning Objectives Most Effectively

As a lecture mode, often used for Cognitive learning, though with planning some exercises that develop affective/interpersonal skills can be developed.

Accommodates Which Types of Learning Activities Most Easily

Can work for all three types of activities, though most often focused on Expositive methods.

Effect on Motivating Course Completion

Sometimes having an event on a learner's calendar is more motivating that a fully flexible "do it when you want" option. With the latter, it is often not prioritized. Some people find the audio and visual aspects of webinars very helpful, particularly those who have a lesser preference for reading materials.

Ease of Implementation, Operational Requirements

The main technical requirement for the learning providers is a synchronous server technology. Many of these are available in a "Software as a Service" model that can scale well and you only pay for what you use. Another option is hosting one's own server, which requires bandwidth and most importantly good support, making this an expensive option. At the specific webinar level practical experience has shown that it is useful to have not only a webinar facilitator, but a technology steward to help address users challenges because to date, there are always challenges, particularly around sound quality and the diversity of end user computer configurations which make troubleshooting complicated.

Uses These Kinds of Technologies

There are two main classes of tools. The first are commercial dedicated webinar platforms such as WebEx, Blackboard Collaborate, and Big Blue Button that can include lecture tools, whiteboards, web-tours, slide tools, and live polling. They usually have facility for recording and later broadcasting and sharing. The second class of live event tools are more ad hoc broadcasting tools such as Google Hangouts, and various live-streaming tools. For some reflections on selecting webinar tools, see http://www.fullcirc.com/2013/01/07/quick-revisit-of-web-meeting-tools-what-is-your-favorite/ .

Costs / Resource Requirements

Costs for larger scale broadcasts or ongoing hosting of a synchronous server can be in the $10s of thousands range. It is important to investigate license options and consider if costs are per seat, per event or some other option. Working with partners who host or have licenses is a useful strategy. There are also free options available, such as Google Hangouts and Skype, however these typically have built-in limitations on the number of users and so are only useful for smaller groups (e.g. under 10)

Most Suitable Scenarios

Best used in situations where learners are unable to gather f2f but learning materials require real-time discussion or interaction. Can be used to build relationships, jumpstart trust or provide real time access to experts that learners otherwise would not be able to interact with. Can provide strong peer to peer learning if designed appropriately.

Compatibility with existing Learning Training Provider Capacities

Requires high-bandwidth internet connections, electricity and modern computers. Can be recorded to provide individual access to a non-interactive archive of a webinar.

Supporting Business Models

Webinars as presentations can be used centrally/globally. High interaction webinars which feature a lot of learner interaction tend to have a more local value. Webinars can be branded by learning providers, can be offered in diverse languages and can be an add on or added value product within a larger training/learning offering. Recorded webinars of very high quality could theoretically be offered for a fee, but at the stage of market maturity of domain, this is not likely.

Webinars might be an "exclusive" delivery method - with pay per session (micropayments?), as part of membership in professional association, or employer paid, etc.

Examples

- An example of a recording of a micro insurance webinar from 2013 https://www3.ambest.com/conferences/events/EventRegister.aspx?event_id=WEB261
- Ongoing webinars via http://mymande.org/webinars , https://www.devex.com/en/news/devex-webinar-schedule-past-and-future/78051 and http://www.usaid.gov/gsearch/webinars
- An organizational webinar recorded and shared on YouTube (to avoid high video hosting costs) https://www.youtube.com/watch?v=tgDoan5kWFI

SYNCHRONOUS TUTORING OR COACHING

Description

While much more resource intensive and less scalable, tutoring or coaching for specific types of learners or specific types of learning this can be an effective model, allowing for more "just in time" or personalized feedback, that could be facilitated synchronously either digitally or even by conventional phone or paired asynchronously via email, discussion lists or web forums. Tutoring is generally the giving of support or feedback in the context of a learning experience or curriculum. Coaching infers support and feedback in a workplace setting. From a delivery standpoint, they are the same, differing only in the knowledge and experience of the tutors who would have more academic approaches and coaches with more workplace experience.

Learner Accessibility/Requirements

Short (1 hour or less) but on an ongoing and possibly on-demand basis. In some cases, tutors have "office hours" online and learners can "drop in" anytime during those hours.

Scalability Implications

The challenge to scaling this model is the need for many experienced coaches or mentors. One possible way to address this is by looking at a more Peer-to-Peer mentoring model, in which learners who are further along the learning path are paired with learners at an earlier stage.

Quality Implications

There are few controls for quality available in this method, the primary one being to select experienced tutors and coaches.

Adaptability (between mediums; between versions; between learning providers/contexts)
As this method stresses individual coaching, there is little formal "content" to be adapted.

Addresses Which Learning Objectives Most Effectively
Both cognitive and affective/interpersonal learning objectives can be well supported through mentoring.

Accommodates Which Types of Learning Activities Most Easily
Coaching is not typically structured around "learning activities" but instead describes a type of ongoing learning relationship.

Effect on Motivating Course Completion
While coaching doesn't work on a "course" model, the high degree of individual contact can have a huge impact in motivating learners.

Ease of Implementation, Operational Requirements
The actual coaching can be straightforward to implement, using basic of the shelf synchronous tools. However, coordinating the large number of coaches required to do this at scale could be complex.

Uses These Kinds of Technologies
Chat and IM, Video and audio conferencing tools like Skype

Most Suitable Scenarios
Useful to provide support for high level employees or coaching on affective-type learning like interpersonal skills, developing context specific knowledge, peer to peer learning and where development of trust is important. Small cohorts and pairs also make it more comfortable to have those from less-outspoken roles and cultures have a chance to converse.

Compatibility with existing Learning Training Provider Capacities
Favors localized and distributed service when delivering to front line audiences, but a centralized version for higher level execs ("a global program") might also be an option.

Supporting Business Models
Learner fee, employer sponsor, (trade?), grant or donor funded (not sustainable, but can be for start up).

Examples
Drake's language learning program utilizes F2F traditional classes and a global tutor supported webinar coaching model http://artsci.drake.edu/wlc/virtuallanguagestudies

ONLINE MENTORING

Description
Mentoring is a model in which learners are matched with mentors, typically someone within the same field but with much more experience, upon whom they can call on a regular basis, either at scheduled times or on an as-needed basis. An individual learner would be matched to a single mentor as this allows for the building of

context and relationships, but a single mentor may be able to coach multiple learners. Mentoring is not strictly speaking limited to a single delivery mode - there can be face to face mentors, mentors reached via conventional phone, and online mentors.

Learner Accessibility/Requirements

Generally ongoing, although mentoring relationships could be structured around helping the mentee reach specific goals or stages in their development or for a specific time period.

Scalability Implications

With a centrally provided model, compensated mentors, the constraint to scalability would likely be the cost and availability of the mentors. This can be addressed by looking for more peer-mentorship models, in which individuals in the field are matched with others at an earlier but related stage of learning. This has the potential to be much more scalable, the main constraint being the effectiveness and centrality of the "matching" role between mentor and mentees.

Quality Implications

This model can produce a very high degree of "quality" in the sense that the support to learners is being provided by people on the ground with specific contextual knowledge. However, this is a different sense of "quality" than is used elsewhere, where it has meant "quality of curricular materials" or "effectiveness of curricular approach in bringing about specific learning goals," as the mentor/mentee relationship is much more about contextual knowledge and support. As such it can often be a good supplement to more defined curricular approaches.

Adaptability (between mediums; between versions; between learning providers/contexts)

Not particularly applicable other than a mentor/mentee matching scheme in one region being an adaptable pattern in another.

Addresses Which Learning Objectives Most Effectively

Both cognitive and affective/interpersonal learning objectives can be well supported through mentoring.

Accommodates Which Types of Learning Activities Most Easily

Mentoring is not typically structured around "learning activities" but instead describes a type of ongoing learning relationship.

Effect on Motivating Course Completion

The mentor relationship can provide a very high degree of learner support as it typically involves the building and maintenance of a longer-term on-going relationship between specific people. The status of the mentor may be a motivator. But again, as in other models discussed above, the notion of "course completion" doesn't particularly apply.

Ease of Implementation, Operational Requirements

The main implementation issue at scale is a way for mentors and mentees to be appropriately matched. This is an area where a combination of personal skills inventories and social media techniques may prove effective in having mentors and mentees largely complete this on their own.

Uses These Kinds of Technologies

Online mentoring can be done synchronously through IM, chat or web conferencing tool like Skype, or else asynchronously via email. Mentoring can also work at a distance via conventional phone.

Costs / Resource Requirements

Uncertain; the method through which mentors are recruited, trained and mentees are matched has a large impact. For instance, when implemented within individual organizations between staff of different seniorities and capabilities, this can be accomplished through face to face meetings, staff assessments, etc. On a larger scale, a systematic way to describe and then match mentee and mentor's capabilities, experience level, and needs is necessary, which may be costly to fully automate.

Most Suitable Scenarios

Online mentoring is useful when an independent learner would like support and assistance from another learner or someone with more expertise. This may be useful when a learner has reason to want his/her learning validated or vetted by someone with more knowledge or experience and could be part of a certification scheme.

Compatibility with existing Learning Training Provider Capacities

If learning providers has an existing mentorship or community of practice program, this might be a fit.

Supporting Business Models

As a standalone strategy, probably does not have a viable business model. As an element of a sponsored or learner paid model, it could be included.

Examples

- http://www.mentorguide.co.uk/mentoring-skills-for-the-workplace/

ONLINE JUST IN TIME / WORKPLACE PERFORMANCE SUPPORT

Description

Just in Time learning (JIT) is provision of workplace learning upon demand by learners. These can take the form of manuals, expert systems, online knowledge banks, video libraries or other short training methods that are intimately linked with an immediate, at-hand task the learner faces. Sometimes it is specific bits of information and sometimes there is a more explicit training element offered. These are provided via only mechanisms (computer, mobile device) either on demand or very soon to when they need to perform it.

Learner Accessibility/Requirements

The duration of the training itself delivered is quite short, task-focused, and ongoing and integrated into any parts of a worker's job that are well proscribed and based on well-structured knowledge or practices. This approach may require computer and network access, but has the potential to be implemented in offline modes, either through traditional print or local area networks.

Scalability Implications

In the case of clearly defined knowledge/processes that are of wide interest to learners and the method used (manuals, video libraries) JIT learning could scale. Scale might be achieved through the creation of a central repository resources that are easily copied to different organizations and/or through delivery through a JIT technology, assuming there are sufficient learner needs/questions in common to be worth the investment.

Quality Implications

This approach, tied as it is to specific work activities and performance objectives, can provide a high degree of measurable success on this limited range of learning. If it is integrated into an insurance company's training program and employee tracking and reward system, it could be closely monitored, even to the level of job performance. This would require significant investment that would only make sense if multiple companies participated and had shared JIT learning requirements.

Adaptability (between mediums; between versions; between learning providers/contexts)

Approaches which allow the learners (and the system itself) to modify the knowledge bases based on actual experiences, offer the chance of truly adaptive, contextual learning to emerge. These are however often extremely complex and expensive to implement if they are tightly integrated with other workplace systems.

Both general approaches and learning content may prove adaptable across organizations. This largely depends on how closely the contexts match as this approach to learning is extremely context-dependent.

Addresses Which Learning Objectives Most Effectively

All three of these objectives can be met through this type of approach, and indeed this is one of the few electronic approaches that is often brought to bear with psychomotor skills.

Accommodates Which Types of Learning Activities Most Easily

This is focused on expositive learning activities, although systems which are tightly integrated with other workplace systems may work well for Application-type learning activities (giving immediate feedback on a specific task as soon as it is performed) and may also have a collaborative element in harnessing the collective knowledge of a group of workers to improve the body of knowledge.

Effect on Motivating Course Completion

Not typically based on a course model, but as it is delivered in place, typically the learner will complete the (relatively small) learning task immediately before proceeding with the task on which it was focused. It could be tied to employee performance goals and have a company based reward which might increase motivation to participate.

Ease of Implementation, Operational Requirements

Given that this category actually covers a wide variety of approaches, there is also wide variation in requirements and ease of implementation. In all cases, initial workflow analysis is important for structuring the knowledge base. Print solutions are easier to implement, though far less adaptive. Online systems-based approaches can be difficult and expensive to implement, and often require that they workflow they support is also online. A middle way might be a query-able database or video library that was updateable, reachable on a variety of devices, including mobile, but was not directly integrated with workplace computer systems.

Uses These Kinds of Technologies

In the case of electronic performance support tools, existing solutions would most often be found through or alongside the current tools used in the insurance industry. In many cases, because of the objective of tying the learning very closely to the organization's workflow, such systems are implemented from scratch, in house.

Costs / Resource Requirements

While some of the more rudimentary approaches like manuals may be done for relatively little expense, in general these are very expensive solutions to implement, though the expense and complexity of their implementations is often justified by their promised immediate impact on worker efficiency and productivity.

Most Suitable Scenarios

This is useful when there is a specific, structured body of knowledge related to specific work practices which a learner can access when they need any individual part of that practice/knowledge. So as an agent goes to sell, they learn about selling. When they hit resistance, they connect to the bit about working with resistance. When they have to pay out a policy, they go to that bit. The intention is that there is a large/broad body of workplace knowledge and it is most useful to learn the bit you need WHEN you need it as we often can't retain a whole course in our heads without practice and context. Often these are automated systems but can be paired with peer learning, mentors, etc. See also http://swdsi.org/swdsi2012/proceedings_2012/papers/Papers/PA164.pdf

Compatibility with existing Learning Training Provider Capacities

If focused on a particular insurer or reseller, suggests that this be localized. If there are globally common practices, it might be centralized, but I suspect not so much!

Supporting Business Models

Employer sponsors as there is direct value add for them and their employees. Less logical for a university based business model unless they were selling to the business sector.

Examples

- https://www.emeraldinsight.com/journals.htm?articleid=882287&show=abstract
- http://www.accaglobal.com/en/student/qualification-resources/acca-qualification/acca-exams/Practical-experience/workplace-mentors.html

COMPARISON OF SYNCHRONOUS METHODS

	Synchronous Webinars	**Synchronous Tutoring or Coaching**	**(Online) Mentoring**	**Online JIT/ Workplace performance support**
Learner Accessibility (Time, Infrastructure, technical literacy)	short time requirement; computer, faster internet plus java or flash installed	short ongoing time commitment; computer/ internet	ongoing short time commitment; computer/ internet	short time requirement; computer /internet
Scalability	medium-high	low-medium	medium	low-medium

Potential				
Quality Control Implications	medium	medium	high	high
Adaptability	low-medium	low	n/a	low
Best for these kind of learning objectives	cognitive, affective/ interpersonal	affective/ interpersonal	cognitive, affective/ interpersonal	cognitive, affective/ interpersonal, psychomotor
Best for these types of learning activities	expositive, application, collaborative	expositive, collaborative	not applicable	expositive, application
Motivates Course Completion	yes	n/a	yes	yes
Ease of Implementation, Operational Requirements	easier	difficult	difficult	more difficult
Uses these kinds of technologies	synchronous webcasting tools	chat and IM, video and audio conferencing tools	chat and IM, video and audio conferencing tools	electronic performance support tools

MOBILE LEARNING

Mobile learning most often brings to mind cellphones, but can include any a wide range of mobile devices including smartphones, tablet computers, e-readers, portable audio players and handheld gaming consoles that can connect to mobile phone networks. With smart devices, there may be a combination of internet and mobile connectivity. In this report we considered three distinct approaches:

1. Web-based materials available via smartphone
2. Native Smartphone Apps (applications)
3. Audio-based mobile-delivered courses or SMS-facilitated learning

The allure of mobile-based delivery methods is their ubiquity; 78.8% of the population in the developing world now have access to a mobile phone, far outstripping access to personal computers. The promise of mobile learning is to:

- Expand the reach and equity of education

- Facilitate personalized learning
- Provide immediate feedback and assessment
- Enable anytime, anywhere learning
- Ensure the productive use of time spent in classrooms
- Support situated learning (learning in one's own context, i.e. work)
- Bridge formal and informal learning

It is unlikely that a purely mobile approach is ideal for the domain training but suitable as a part of a blended approach, or as a supplementary delivery channel. It holds great potential as the technology rapidly evolves and mobile costs structures get more affordable in many parts of the developing world.

WEB-BASED MATERIALS AVAILABLE VIA SMARTPHONE

Description

This is less of a completely different delivery method than online methods, and more of a major design & implementation consideration to complement and augment web-based e-Learning. While some e-Learning systems deliver mobile versions well, and smartphones typically have web browsers, there are technical limitations and constraints (screen size, accessibility & navigability, lack of Flash support, bandwidth issues if using cell data). This means that a web-based approach designed for a large portion of users interacting with via mobile devices must take these into consideration at all phases of design and deployment.

Learner Accessibility/Requirements

As a pure delivery mode, the main consideration is learner access not just to a mobile device, but specifically a "smartphone" or tablet device, along with inexpensive high bandwidth connectivity (e.g. 3G or better.) Because of the constraints of the form factor (smaller screen, more challenges with input) shorter exercises are often preferred. That said, smart phones offer affordances (geolocation, audio input and output, accelerometer and capacitive touchscreen) which may in the near future, through the expansion of W3C standards, be available to conventional websites to adapt their content too.

Scalability Implications

Scalability is influenced by all the same factors for web delivery. However, the enormous adoption rate of mobile devices in the developing world means that delivering any training in a format that is easily used on a mobile device offers a huge potential to scale.

Quality Implications

As above, with the caveat that there are very specific best practices in web development around "adaptive content" that, if followed, allow mobile users to experience web-based sites in presentations much more suitable to that form factor.

Adaptability (between mediums; between versions; between learning providers/contexts)

In this case mobile is seen as an adaption of web content (or rather, mobile is targeted but with the explicit intent of it also being consumable through standard web browser.) So by definition the content is being developed to serve a number of delivery methods.

Addresses Which Learning Objectives Most Effectively

All three of these objectives can be met, some potentially even more so than with conventional desktop access if they make good use of the specific affordances of these devices.

Accommodates Which Types of Learning Activities Most Easily

Again, all of these learning activities are viable through these devices with proper learning design.

Effect on Motivating Course Completion

Two factors (typically smaller content chunks, accessibility of materials at more times and places) may well lead to higher completion rates.[9]

Ease of Implementation, Operational Requirements

Increasingly, web-based content development systems developers are aware that more and more users will be accessing them on mobile devices and are including with mobile-ready views. Even if this is not the case, if best practices for adaptive content are followed right from the outset, this delivery method can definitely be added to almost any native web-based approach.

Uses These Kinds of Technologies

While "mobile learning" most often brings to mind phones, it can include any of phones, smartphones, tablet computers, e-readers, portable audio players and handheld gaming consoles. To cope with the shifting landscape of devices, UNESCO's definition is helpful:

> *"UNESCO chooses to embrace a broad definition of mobile devices, recognizing simply that they are digital, easily portable, usually owned and controlled by an individual rather than an institution, can access the internet, have multimedia capabilities, and can facilitate a large number of tasks, particularly those related to communication"* – (http://unesdoc.unesco.org/images/0021/002196/219641E.pdf)

In this case we are typically referring to smartphones and tablets which can display either native or modified-on-the-fly web content.

Costs / Resource Requirements

While variable depending on the size/type of content wanting to adapt to this method, if this is considered right at the start as a key requirement, it can be done with very little increase to incremental costs from the course design perspective. Learners' costs (phones, airtime) vary by country.

Most Suitable Scenarios

Suitable where e-delivery can't be done via computer based connectivity and where there is affordable/accessible mobile data coverage. Also very suitable as a dual delivery approach offering both mobile and web versions of the same material for little increased costs. Can also be paired with micropayments for pay-for-learning. Has been show in some studies[10] to be useful for adult learners who don't have time to "go back to school" but who can wedge learning into little bits of time and can also pair well with Workplace performance support, mentoring and CoPs.

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[9] http://learningdesign.psu.edu/research/MLRTWhitePaper.pdf

[10] http://www.mymobile-project.eu/IMG/pdf/Handbook_Lessons-Recommendations.pdf

Compatibility with existing Learning Training Provider Capacities

Centralized base content, distributed localized content, would need clarity on what learners need due to the fact that mobile interfaces are still emerging. Good option for specific, localized material to complement other more global and standardized offerings.

Supporting Business Models

1. Micro payments for learning content/interactions (mobile banking?!)
2. As part of blended program with business models mentioned above.

Examples

The Presentation "Mobile Learning in South Africa" (http://www.slideshare.net/stevevosloo/mobile-learning-south-african-examples) contains pointers to examples for all three types of mobile approaches.

MOBILE APPS OR APPLICATIONS

Description

Rather than simply develop a web-based version that can adapt to mobile web browsers, modern smartphones also support native applications (e.g. Android Apps, iPhone apps.) The advantage is that Apps are built specifically for phone users. The disadvantage is that they are supplemental to any web-native version and require more development. In addition, without proper planning and execution, they require even more resources to deliver across the multiple smartphone operating systems.

Learner Accessibility/Requirements

Learners must have access to smart devices to use native mobile apps and connectivity to download the apps. Smart devices are more expensive and less common than voice/SMS mobile phones. For smartphone owners, technical literacy challenges are less than conventional desktop computer-based approaches. Learners do not have to maintain an operating system, installation is simple, and usability is often very compatible with other apps that they will be familiar with. Mobile approaches offer more flexibility of where, when and how long learners spend (though in term of "how long," this is determined by the specific content approach.)

Scalability Implications

The constraints on scalability are likely to be both the availability of smartphones and the required connectivity, the necessity to develop native apps for multiple platforms or prioritizing a few platforms, excluding some potential learners.

Quality Implications

Given that this would like be a "centralized" approach, there is a good deal of control over quality.

Adaptability (between mediums; between versions; between learning providers/contexts)

Adaptability should be considered on a number of fronts. First, between app platforms there is some possibility of choosing a development environment that explicitly creates code for multiple mobile platforms. This will help, but not completely solve, the otherwise expensive challenge of moving products between platforms. Another is adaptability of the apps for other environments (e.g. online, offline) and the adaptability of the "content" as well. In both cases, adaptability is quite low; approaches which support both native mobile devices, desktops, web and print are few and far between, typically expensive to build and require a strong business model to support these added costs. Finally, adaptability for different languages and contexts based on

learning providers' needs is also likely challenging and quite low, thus this approach speaks to suitability for training with the most common denominator.

Addresses Which Learning Objectives Most Effectively

All three of these objectives can be met, some potentially even more so than with conventional desktop access if they make good use of the specific affordances of these devices.

Accommodates Which Types of Learning Activities Most Easily

All of these learning activities are viable through these devices with proper learning design.

Effect on Motivating Course Completion

Mobile apps are one of the few places where there does not seem to be negative learner preconceptions to overcome. The market for apps, both explicitly educational ones and informally educational ones, has exploded in a very short period (2004 onwards) driven largely by the users themselves.[11] This, along with the flexibility in delivery times and places, bodes well for learner acceptance and thus completion rates. However, this is still a very new area and there are not many examples and supporting data.

Ease of Implementation, Operational Requirements

Native mobile apps require expertise to develop and deploy (above and beyond simple web development) and real care and attention is needed in the to design to explicitly harnesses the unique aspects of mobile platforms.

Uses These Kinds of Technologies

Mobile learning is primarily aimed at smartphones and tablets. There are three main operating systems at play - iOS, Android and Windows - which set the parameters on what mobile apps can do. While there are application development platforms that allow you to target multiple mobile platforms from a single codebase (cf PhoneGap http://phonegap.com/ or Appcelerator http://www.appcelerator.com/) getting it right on multiple platforms often requires extra work. Increasingly, native apps are being abandoned for HTML5-based apps, although applications which make use of native phone functionality (accelerometer, local storage, camera access, voice) still require a native smartphone approach.

Costs / Resource Requirements

Native web apps can be expensive to develop, although a single app might become a delivery environment for a large set of content. Given the wide range of functionality that can be described by the term "app" development costs can range from $1000 for a basic static app to $30,000 and more for a dynamic one.[12]

Most Suitable Scenarios

Native apps can be powerful learning tools, but they have high resource requirements and low potential for adaptability. Thus they are best suited for training needs that are large-scale and not as context-dependent.

Compatibility with existing Learning Training Provider Capacities

Conceivably large educational providers may already be delivering some of their learning via apps and so may have capabilities. Additionally, these can blur the line with "JIT and Workplace Performance Support"

[11] http://www.acclaro.com/translation-localization-blog/mobile-app-growth-emerging-global-markets-64
[12] http://www.accella.net/how-much-will-my-mobile-app-cost-to-create/

approaches in large corporations and their mobile and ubiquitous nature makes them attractive as the delivery mechanism for such.

Supporting Business Models

1. Micro payments for learning content/interactions (possibly utilizing mobile banking)
2. As part of blended program with business models mentioned above.

Examples

The Presentation "Mobile Learning in South Africa" (http://www.slideshare.net/stevevosloo/mobile-learning-south-african-examples) contains pointers to examples for all three types of mobile approaches.

AUDIO-BASED COURSES OR SMS-FACILITATED LEARNING

Description

In many developing nations there has been great success in language learning and other just-in-time training via SMS and audio-call systems.

Learner Accessibility/Requirements

Of all the mobile approaches, this has the highest degree of accessibility as it requires the least amount of mobile connectivity, connectivity that is increasingly ubiquitous in the developing world. It shares many of the other benefits of shifting time and location with the other mobile approaches, and likely has even lower technical literacy approaches.

Scalability Implications

This has the potential to deliver on a reasonably constrained set of training goals to a mass audience, hence its suitability and current uses within fields like language training and agricultural support.

Quality Implications

As a centrally provided service the provider does have a large ability to impact the quality of training.

Adaptability (between mediums; between versions; between learning providers/contexts)

With proper planning such an approach could be adapted across languages quite well, especially if the training topics were limited to very similar specific topics.

Addresses Which Learning Objectives Most Effectively

Most useful for cognitive learning objectives as the medium (SMS or audio) is quite narrow in its expressive and communicative abilities.

Accommodates Which Types of Learning Activities Most Easily

Typically focus on expositive activities.

Effect on Motivating Course Completion

This approach doesn't focus on "courses" and is often a compatible delivery mechanism for "just in time" style training. But as such it has a very high likely of being followed through to completion.

Ease of Implementation, Operational Requirements

There does exist platforms for providing menu or verbal driven decision trees, most often developed for call centres, that can be put to good use in these scenarios.

Uses These Kinds of Technologies

Of the various "mobile" approaches, this one has the greatest applicability to learners with low network access (e.g. lacking 3G networks or smartphones) as it requires only basic phone functionality and connectivity.

Most Suitable Scenarios

Delivery of "just in time" knowledge for well-established knowledge bases, or for very introductory learning.

Compatibility with existing Learning Training Provider Capacities

Centralized base content for basic learning, distributed for highly customized/localized content.

Examples

The Presentation "Mobile Learning in South Africa" (http://www.slideshare.net/stevevosloo/mobile-learning-south-african-examples) contains pointers to examples for all three types of mobile approaches.

SUMMARY TABLE OF MOBILE METHODS

	Web-based materials available via smartphone	**Mobile app**	**Audio-based courses or SMS-facilitated learning**
Learner Accessibility (Time, Infrastructure, technical literacy)	variable time commitment; smartphone and data plan	variable time commitment; smartphone and data plan	short time commitment; regular cell phone
Scalability Potential	high	medium	high
Quality Control Implications	high	high	high
Adaptability	high	medium	medium
Best for these kind of learning objectives	cognitive, affective/interpersonal, psychomotor	cognitive, affective/interpersonal, psychomotor	cognitive
Best for these types of learning activities	expositive, application, collaborative	expositive, application, collaborative	expositive
Motivates Course Completion	yes	yes	yes
Ease of Implementation,	easier	difficult	difficult

Operational Requirements			
Uses these kinds of technologies	cf. online formats above, consumed via wireless mobile devices	Operating system (OS)-specific app code; html5 rich apps; consumed via wireless mobile device	call centre technology; basic mobile phone

OFFLINE DELIVERY METHODS

Offline delivery methods reach learners without network connectivity or cell phone access and/or who also cannot be effectively reached through face-to-face sessions. In this report we have considered three such methods:

- Traditional distance learning print-based materials
- CD-ROM/DVD distributed software or content
- Local LAN-based Learning Management Systems (LMS)

Offline methods can scale well, although their offline nature means they often lack any learner-to-learner or learner-to-instructor interaction and are most suited to material that does not require that kind of support. While it is possible that they may become a primary delivery mechanism for some markets and types of content, it is more likely is that a well-considered content development process enables delivery of existing content through these channels when necessary.

TRADITIONAL DISTANCE LEARNING PRINT-BASED MATERIALS

Description

Paper based distance learning mails individual enrolled learners course materials by post, including testing material which is returned to the instructor for grading. This model has been used extensively for geographically isolated learners, with Australia being a leading user of distance learning until it transitioned to more online based learning. Where there is more than one learner in a location, there may be local F2F study groups. Sometimes learners are supported with regular phone calls from instructors, or radio based lectures.

Learner Accessibility/Requirements

This approach offers a large amount of flexibility to learners in terms of the time, and location of learning, and requires very little infrastructure or technical literacy. That said, because of the asynchronous (and slow) nature of the correspondence between learner and learning providers, this type of learning has often focused on larger course-sized chunks of learning.

Scalability Implications

This approach can scale to large numbers, though unlike electronic methods, there are costs directly associated with the growth in scale (postage, printing) that, along with the paucity of interactivity, have meant it is less and less a preferred delivery method for distance learning.

Quality Implications
The content producer has a large opportunity to maintain quality standards in this approach. The actual learner experience is very difficult to assess.

Adaptability (between mediums; between versions; between learning providers/contexts)
Legacy print approaches have often been adapted to online courses, though without due consideration for the affordances and constraints of the online medium, this approach has suffered. Conversely, with proper planning, print versions of online courses can be made available at low cost. Again, the different media do have different affordances that do not always translate well. Depending on the content development platform and formats chosen, this approach may also facilitate the localization of content by different learning providers more easily.

Addresses Which Learning Objectives Most Effectively
Most often focused on the development of cognitive skills and information transfer.

Accommodates Which Types of Learning Activities Most Easily
While all three types of learning activities could be attempted, as this method has a low degree of learner-to-learner and learner-content interaction, it typically focuses on expositive activities.

Effect on Motivating Course Completion
In this model learners most often lack both a cohort and direct instructor support (or it is very limited,) both of which are factors that can influence course completion rates.

Ease of Implementation, Operational Requirements
Fairly straightforward to implement, there are both existing systems and partners with extensive experience in print-based course development.

Uses These Kinds of Technologies
Print, though increasingly this mode of delivery can be used to supplement online content development if the requirement for printability is considered early on in the project.

Costs / Resource Requirements
The costs to develop print materials can, as with any of the methods, vary greatly depending on the size and complexity of the materials. However, a rough guideline for a full semester (8 week) course of print material with visuals is $35,000.[13]

Most Suitable Scenarios
Scenarios in which learners are literate, have no access to computers nor the ability to travel. Also, most suitable for larger content chunks (1 week and up) due to the time delays in interacting with learning providers on formative assessment.

Compatibility with existing Learning Training Provider Capacities

[13] http://php.auburn.edu/outreach/dl/pdfs/Costs_and_Costing_of_Networked_Learning.pdf

Centralized base content for basic learning, distributed for highly customized/localized content.

Supporting Business Models
Pay per student, funded by employer or government, or grant funded.

Examples

- Barefoot guides
- https://www.youtube.com/watch?v=KosUqkcqQWU for a bit about paper based
- Example provider https://www.ahlei.org/Programs/Distance-Learning/
- Nice chart in this paper that compares across distance learning opportunities http://www.eurodl.org/?article=521

CD-ROM/DVD DISTRIBUTED SOFTWARE OR CONTENT

Description
Course or less structured materials are delivered via CD ROMs or DVDs to learners who have computer access but no (or poor) internet connection. The advantage over traditional text-based distance learning approach is the possibility to include interactive multimedia and assessment materials that can assist with certain types of learning.

Learner Accessibility/Requirements
This approach also offers a great deal of flexibility to the learner in terms of time and location of learning, but does require the learner to have access to a computer with CD/DVD drive.

Scalability Implications
This approach can scale to large numbers, and the costs to reproduce the materials is typically less than it would be with print, particularly when there is a large volume of material.

Quality Implications
The content producer can utilize quality standards in this approach. The learner experience cannot be controlled.

Adaptability (between mediums; between versions; between learning providers/contexts)
A good deal of static online or print content in electronic form can be shared via CD-ROM with low effort. In order for the materials to be easily versioned or adapted to local content, source versions would need to be made available.

Addresses Which Learning Objectives Most Effectively
All three of these objectives can be met through this method.

Accommodates Which Types of Learning Activities Most Easily
Collaborative activities are likely the ones most often not done through this technology.

Effect on Motivating Course Completion

The solitary learner faces many of the same challenges in this model that they do in others without additional supports or learner interaction. Keeping the interactive design creative and engaging, supporting with certification may support completion.

Ease of Implementation, Operational Requirements
More complex than straight print materials, but does not have the requirement for real-time network or server support, and shifts the majority of support burdens onto the learner.

Uses These Kinds of Technologies
Local computer with CD-ROM drive. Wide variety of approaches can be used to implement an application/rich media.

Most Suitable Scenarios
Where learners have no internet access, but can access CD ROM compatible computers.

Compatibility with existing Learning Training Provider Capacities
Centralized base content for basic learning, distributed for highly customized/localized content if learning providers has ability to do localization and press/distribute the CDs.

Examples
- FAO IMARK modules are available in CD form.

LOCAL AREA NETWORK (LAN) BASED LEARNING MANAGEMENT SYSTEM (LMS)

Description
This approach uses a network-based LMS to deliver training, typically self-paced, for organizations with local networks but without a strong connection to the wider internet. Very similar to "Online Courses, self-paced" in the kinds of technologies it uses and its suitability for certain types of learning.

Learner Accessibility/Requirements
Does require the learner to have a computer with local area network access, but does not require larger connection to the internet at large. Learner has some independence to learn at their pace, often in a workplace setting as that may be the only place LAN is available.

Scalability Implications
Typically not very scalable; while content could be developed that would allow individual learning providers or organizations to port it into their local learning environments, this process is not without challenges and scale would be achieved through multiple instances.

Quality Implications
This approach has all of the challenges of conventional online courses but few of the advantages.

Adaptability (between mediums; between versions; between learning providers/contexts)
The content producer has a good deal of control of the quality of the initially produced content, but as this by definition must be distributed, and potentially further localized, there is a great chance for variability at the

local level. Migrating course content between different learning environments is still a non-trivial issue. The standards that have been developed to support this are unevenly supported between different delivery environments. Because this model implements local versions, there is an increase chance of this issue.

Addresses Which Learning Objectives Most Effectively

All three of these objectives can be met through this method.

Accommodates Which Types of Learning Activities Most Easily

Works well for expositive and collaborative methods, and can also work well for application methods that are not hands on or Just-in-time in nature.

Effect on Motivating Course Completion

As the online learning is taking place in a local context, the learner has a higher degree of support from peers in the same location. In this sense it is similar to blended models without the formal local support.

Ease of Implementation, Operational Requirements

The difficulties lie in each learning providers or organization needing to implement their own learning environment. Some larger firms will have these in place but it is not typically viable for smaller ones.

Uses These Kinds of Technologies

Locally installed LMS.

Costs / Resource Requirements

Costs could range in the low thousands for a locally hosted open source LMS to many thousands for a proprietary one.

Most Suitable Scenarios

Really only suitable in settings that have a large number of on-site learners with local area computer access but no (or very weak) internet connectivity. This does however describe the situation in various institutional settings in some developing nations.

Compatibility with existing Learning Training Provider Capacities

This would be most compatible with an LTP who was a MI firm that used such an approach to deliver training internally, not particularly suited to delivery by an external agency given the nature of the model.

Supporting Business Models

This approach is more about circumventing an access problem in a setting that would otherwise be suitable for a standard online learning course-based approach. As such, the business model is more about internal cost savings. It is, however, potentially complementary to a larger internet-based online course using the same (or at least standards compliant) LMS where the course can be easily ported over.

Examples

Clearly, public internet examples would, by definition, not be available online. However, the Commonwealth of Learning's "Classroom without Walls" project (http://www.col.org/blog/Lists/Posts/Post.aspx?ID=169) offers a working example. More details can be seen in this video http://www.youtube.com/watch?v=heUTFOHNzrg

SUMMARY TABLE OF OFFLINE METHODS

	Traditional Distance Learning Print-based materials	**CD-ROM Software**	**Local LAN-based LMS**
Learner Accessibility (Time, Infrastructure, technical literacy)	variable time commitment	variable time commitment; computer/cd drive	variable time commitment; computer/local area network connection
Scalability Potential	high	high	low
Quality Control Implications	high	high	medium
Adaptability	medium	high	medium
Best for these kind of learning objectives	cognitive	cognitive, affective/interpersonal, psychomotor	cognitive, affective/interpersonal, psychomotor
Best for these types of learning activities	expositive	expositive, application	expositive, application, collaborative
Motivates Course Completion	no	no	yes
Ease of Implementation, Operational Requirements	easier	difficult	difficult
Uses these kinds of technologies	print service	multimedia scripting language (flash, director); local computer	locally installed LMS.

BLENDED AND HYBRID METHODS

Blended learning typically refers to methods in which a combination of online and face-to-face learning is used. It can also refer to any blend of delivery mechanisms. In this report we have considered two possible models, the "Flipped MOOC" and the more conventional "Blended Course," however there are many more combinations possible.

While blended models may be slightly less scalable than fully online approaches (or at least involve additional costs and complexity,) their value is that they provide the best of both worlds, giving learners access to online

materials to support independent learning that frees the learners from the constraints of "same time/same place" face to face methods, and supplementing these with face-to-face sessions that can greatly assist in the creation of group cohesion in a cohort, provide a higher degree of context and assistance to individual learners, and help overcome some of the biases against fully online learning. In situations where online access exists but some freedom to meet or travel is also present, a blended approach over the course of a learner's progress may be the best way to find a balance between scale and local context.

"FLIPPED" MOOC

Description

A model emerging from post-secondary institutions to deal with the threat/opportunity of MOOCs, this approach points a cohort of learners at an existing massive online course, but then supplements this online learning with classes or workshops to augment the learning or provide instructional support or learner interaction that is best done in a f2f setting.

Learner Accessibility/Requirements

This model does use a cohort approach, both online and f2f, and so it is not as flexible for the learner time-wise. Learners require a computer and network access, and possibly a high degree of self-motivation, however this is ameliorated somewhat by the supporting f2f cohorts and instructor support.

Scalability Implications

Less scalable than a pure MOOC, however this model does offer the advantage that standardized content can be delivered centrally while f2f sessions, which may be optional and not necessarily scheduled in concert, used to supplement the learning as well as making it more locally relevant.

Quality Implications

As with a MOOC, there is a high degree of control over the central content, but unlike the standard MOOC this does introduce variability through the use of local instructors.

Adaptability (between mediums; between versions; between learning providers/contexts)

Similar to "Online Courses, cohort-based" but without the variability of diverging online content across multiple delivery environments.

Much would depend on what, in addition to the online component, was being shared with the local learning providers doing the f2f component.

Addresses Which Learning Objectives Most Effectively

All of these objectives can potentially be met, with this model offering greater opportunities to meet affective and psychomotor objectives through its F2F components.

Accommodates Which Types of Learning Activities Most Easily

All three types of learning activities can be well accommodated in this model.

Effect on Motivating Course Completion

The addition of F2F cohorts is intended as a potential remedy to the current attrition problem facing many MOOCs, though this has yet to be demonstrated in practice.

Ease of Implementation, Operational Requirements
This has all of the challenges of a MOOC plus the additional challenges of f2f cohorts.

Uses These Kinds of Technologies
Network access, web browser. Course delivery may vary depending on MOOC model and choice of delivery platform

Costs / Resource Requirements
Similar to MOOCs plus the costs for F2F delivery at the smaller cohort level.

Most Suitable Scenarios
It is an approach for learners to productively interact with and use MOOCs.

Compatibility with existing Learning Training Provider Capacities
Centralized for MOOC/Content and localized for cohort/F2F work may be a really useful combination of global and local.

Supporting Business Models
With centralized funding of the MOOC portion, it is more likely that local learning providers could find reasonable ways to fund and sustain the smaller local cohorts via learner fees, company sponsorship or even learning micropayments.

Examples
As the Flipped MOOC is a classroom based model, it is difficult to point to an example, however this draft paper describes 4 scenarios in which MOOCs can be supplemented with Face to Face sessions.

CONVENTIONAL BLENDED COURSE - F2F AND ONLINE DELIVERY

Description
There are a wide range of ways to blend both online and F2F course delivery, from online lectures and F2F study groups, alternating online and F2F class meetings, supporting distance learners with mobile phone consultations w/ tutors, etc. The main difference between conventional blended courses and the "flipped MOOC" idea is that the online components of the blended course are more localized, less massive, and can be delivered independently by learning providers. Many academic institutions are adopting this model, though many do not have a structured component to the online delivery and instead simply augment f2f classes with online readings.

Learner Accessibility/Requirements
This model can be seen as an extension of the "Online Course, Instructor Supported" but with support coming both online and through the facilitation of F2F cohorts. There is slightly less flexibility for the learner as it does require same time/place meetings, at least for the F2F components.

Scalability Implications
The content component of this approach is the most scalable, but as both the online and F2F aspects are delivered as cohorts, this limits the ultimate scalability, which would need to be met through multiple iterations/learning providers.

Quality Implications
While quality control can always be applied to the content, the variable is instructor quality and local delivery environment. This can be mitigated by partnering with trusted learning providers and a strong facilitator training and evaluation component.

Adaptability (between mediums; between versions; between learning providers/contexts)
Migrating course content between different learning environments is a non-trivial issue. The standards that have been developed to support transferability between platforms are unevenly supported.

Addresses Which Learning Objectives Most Effectively
All three of these objectives can be met; this is the main strength of the conventional blended model, is that it adds to the flexibility of online delivery the richness of F2F interaction and the physical and interpersonal learning it can facilitate.

Accommodates Which Types of Learning Activities Most Easily
All three types of learning activities can be well accommodated in this model.

Effect on Motivating Course Completion
Much like F2F courses and workshops, timely interventions by instructors can assist with course completion issues.

Ease of Implementation, Operational Requirements
Similar challenges to implementing "Online Course, self-paced" but with the added complexity of scheduling F2F activities.

Uses These Kinds of Technologies
LMS and related technologies for online delivery.

Costs / Resource Requirements
In essence, the costs would be the same as a regular online course but with the addition of a face-to-face classroom component.

Most Suitable Scenarios
Augmenting either F2F w/ the online or the reverse. Provides a good way to get some of the scale and cost benefits of online learning but with the ability to dive deeper into localized version of content in the F2F sessions.

Compatibility with existing Learning Training Provider Capacities
Would work well with providers who were versed in F2F delivery but did not have capacities in online delivery.

Supporting Business Models

With centralized funding of the online portion, it is more likely that local learning providers could find reasonable ways to fund and sustain the smaller local cohorts via learner fees, company sponsorship or even learning micropayments.

Examples

FAO provides a variety of blended courses, for example:
http://www.fao.org/americas/eventos/ver/en/c/284440/

SUMMARY TABLE OF HYBRID METHODS

	"Flipped" MOOC	**Conventional Blended Course - f2f to create cohort, online delivery**
Learner Accessibility (Time, Infrastructure, technical literacy)	long time requirement, computer/internet, high degree of technical literacy	long time requirement, computer/internet, high degree of technical literacy
Scalability Potential	medium-high	medium
Quality Control Implications	high; instructor variability	high; instructor variability
Adaptability	high	medium
Best for these kind of learning objectives	cognitive, affective/interpersonal, psychomotor	cognitive, affective/interpersonal, psychomotor
Best for these types of learning activities	expositive, application, collaborative	expositive, application, collaborative
Motivates Course Completion	yes	yes
Ease of Implementation, Operational Requirements	more difficult	difficult
Uses these kinds of technologies	varies	LMS

IMPLEMENTATION CONSIDERATIONS

While the choices of delivery methods and their supporting business models are an important factor in the ultimate success of a larger the domain training agenda, there are *many* additional considerations on the *way* a solution is actually implemented that also have a significant impact. In this section we will discuss a number of these factors that need to be considered in relation to ANY of the proposed overall models and explain their potential impacts.

The factors that will be explored are the following:

- Delivery tools
- Content development methodologies & platforms
- Versioning and collaboration of content
- Intellectual property licensing
- Certification
- Badges

DELIVERY TOOLS

Within each of the delivery methods there are myriad choices to be made on specific platforms, some of which can impact issues such as adaptability (and thus scale,) cost and suitability for certain types of learning activities. It is beyond the scope of this paper to delve into extensive details on the specifics of each platform, but in this section we will outline some high level concerns and choices that should be kept in mind.

Learning Management Systems

Learning Management Systems (LMS) are integrated suites of tools, wrapped in a single authentication and authorization layer, that facilitate the delivery of online courses. They have their origins both in higher education as well as corporate training, and depending on this, may have a different focus to their feature set. While both corporate training-focused and higher education-derived LMS can typically be used for both instructor-facilitated cohorts or individual learner patterns, with its origins in a highly facilitated face-to-face classroom, higher ed derived LMS typically have focused on recreating many of the aspects of a "classroom" experience in an online setting. Conversely, corporate-focused LMS have more often focused on individual training and performance tracking.

Another major consideration in implementing an LMS-based solution is its pricing model; "per seat" licensing fees can become prohibitively expensive very quickly at large scales. An alternative is "per instance" pricing, which is sometimes available. Another very important alternative are open source LMS, which will still have associated support costs but do not typically have any licensing fees. Especially at scale, this can prove to be a major cost saving. In addition, open source software does offer the potential for more control over customization and improvements, although it is important to understand that this potential loses value if one does not have the actual capacity to take advantage of it.

CONTENT DEVELOPMENT METHODOLOGIES & PLATFORMS

Whether the ultimate training solution chooses to deliver via online training, mobile learning or more traditional face to face methods, there is still a requirement for training materials to be developed and distributed, revised and improved upon over time. With some consideration to the actual content development implementation, it is possible that multiple delivery channels can be served by some of the same content.

For instance, increasingly there are systems (two examples are Moodle or Wordpress) that allow content developed for the web to be consumed without any additional effort on mobile devices, as well as printed for

use offline. Most often these approaches deal primarily with text-based content and use some combination of XML/XSLT or HTML/CSS to provide what is known as "responsive web design" (http://en.wikipedia.org/wiki/Responsive_web_design.)

It is important to understand that while certain types of materials can indeed be ported between/served to different platforms and modalities, effective instructional design ideally looks to match the learning content with a learning activity that takes the best advantage of the affordances of the platform it is being delivered on (amongst other aspects of the learner's context.) So while making strategic choices about content development platforms and methodologies is important for allowing more flexibility of delivery options, it is not a panacea, and the last twenty years of e-learning history is littered with examples of projects that tried to serve too many different models at once, trying to be all things to all people, and in so doing failed to deliver impactful educational experiences on any of the specific channels.

VERSIONING AND COLLABORATION

As above, it is also possible to develop content in such a way that allows for a wider participation in the maintenance of the materials without necessarily lessening quality controls. A traditional practice for content development has a centralized instructional design and development unit work with subject matter experts to produce each unit of instruction, often using tools such a Learning Content Management Systems (or other in house workflow & content management tools) to maintain versions, manage workflow and do quality testing.

While this works fine for individual organizations with centralized delivery methods, when multiple delivery partners are involved who may each require localized versions of the content, and who may make improvements to that content which could be useful to share back with the larger community, such centralized practices can become constrictive.

There are a number of ways in which content can be developed more collaboratively or at least shared in a way that encourages improvements and adaptations to be further shared. As an example, platforms like Mediawiki, in use by Wikiversity (http://en.wikiversity.org/), can serve as web-based authoring environments that allow for both collaboration and versioning of content. Conversely, with a small enough set of delivery partners, revisions and improvements might be shared with a central development unit that can vet and incorporate the best submissions. In either case, this process of wider collaboration can be facilitated through open content licenses as discussed in more detail below.

INTELLECTUAL PROPERTY LICENSING

Traditionally, intellectual property is created and then sold or licensed under conventional copyright terms. The advantage is obviously that there is some expected revenue attached to the use of the content which can serve to sustain it in the long term.

The downside is that:

- it requires the users of the content to be able to pay
- it often means that in order to preserve the review stream restrictions are placed on the content, either shielding it entirely from public view or using complicated digital rights management. This can have the unintended effect of limiting the number of learners who ultimately access the materials, especially if there is a realistic expectation of self-directed learner access outside of formal institutional or organizational channels.
- it means that agreements need to be in place which permit the alteration of materials for local needs

Another licensing model has emerged over the last decade that takes advantage of the near zero costs to reproduce digital materials and the increasing ubiquitous internet access found in parts of the world. This is often called "Open Content" licensing and in the context of educational materials, "Open Educational Resources." As UNESCO defines them,

> *"Open Educational Resources (OER) are teaching, learning or research materials that are in the public domain or that can be used under an intellectual property license that allows re-use or adaptation (e.g Creative Commons). The potential of opening up educational resources for use and adaptation by everyone, especially those in resource-poor environments, is a great opportunity to achieve quality education for all."*
> (http://www.unesco.org/new/en/unesco/themes/icts/open-educational-resources/)

OER materials are both free (in cost) and 'libre' (free to modify and use as the person sees fit.) The advantage of this approach is that it removes the need for formal agreements to use or alter materials, potentially facilitating a wider spread (and thus wider impact) of them. This can be especially important in the case of materials that have wide potential appeal and which have audiences with online access who may not be reached through formal channels but who nevertheless would greatly benefit from having access to the materials. This licensing model has been especially attractive to various civil society groups who have funding to develop materials for one specific context but wish to serve as large a population as possible.

CERTIFICATION

Certification is the process by which a "person is certified as being able to competently complete a job or task, usually by the passing of an examination." Training can definitely be done without certification, however attaching the successful completion of a course of training to a resulting certificate can be advantageous in some cases. For instance, it may be part of the Learning Service Provider's business model, or it may be used as a way to create a "brand" and associated signal of quality which can assist in marketing the training. From the learner's perspective, credentials, especially those recognized internationally or within their specific industry or jurisdiction, may greatly assist in motivating learners to engage with training that is seen as a path towards career advancement, and one that can transfer beyond the bounds of a single organization.

That said, certification brings with it its own set of challenges and concerns. For instance, the following questions would need to be addressed:

- Who is the certifying agency, and who assesses their qualifications to certify?
- What is the relationship between development agencies and the certificate? Do development agencies need to accredited the issuer, or are the organizations the issuer themselves?

If there is an expectation that the training will be delivered to a large number of people who work outside of formal institutional structures (and therefore may have additional motives to pursue a credential as a way of "getting into the business") then some form of credential may well be advantageous for attracting learners. However, if learners are coming from within existing organizations and thus may have extrinsic motivations to attend training provided by this organization, whether in the form of time off, paid support or an organizational mandate, then formal certificates may be of less importance.

BADGES

A recent development in the field of informal and non-formal learning is the idea of "badges." Not dissimilar to how "badges" function within Scouting and other non-formal education, they are a way to signal mastery of smaller tasks and skills, supported by an open technical infrastructure that enables the publishing, issuing and display of badges. While badges are an attempt to fill this middle, underserved ground of skills and abilities learned outside of formal education with a lightweight solution, their appeal to learners is likely to be minimal until the difficult problems of establishing issuer credibility and reputation (and thus vouchsafing value for the badge recipient and anyone looking to accept a badge as proof of a learner's accomplishments) are solved. Without such a solution, badges remain a poor cousin of formal credentials that still require the same amount of verification as conventional credentials.

APPENDIX A: EXAMPLES TO LEARN FROM

THE FOOD AND AGRICULTURAL ORGANIZATION OF THE UN E-LEARNING INITIATIVES

Sector: Agriculture

Delivery Method: Self-paced e-learning, facilitated cohort e-learning, blended and offline based on core curricula.

Scale: FAO's early offerings, the IMARK modules are freely available on the web and via CD ROM upon request, have huge potential for scale. Because of the openness, FAO does not fully know how many learners they have reached, and far less about how useful the material was. For example, they have 103,000 registered users for the Food Security module as tracked by LINGOS, but don't know if they are downloading the material and sharing, how many times a CD ROM is shared or when user logins are shared.

Cost: FAO estimates a cost of $5000-6000 Euros for every 30 minutes of e-learning produced, including all phases from assessment workshop, instructional design, production team, and production in multiple formats.

Lessons learned:

- Focus on what learners need to do their job, not the universe of potential content
- Look beyond domain expertise - sometimes there are important related "soft skills"
- Learners need to be able to see the immediate value of what they are learning
- Break content into smaller, reusable and more easily updatable chunks
- Adapt and remix the "chunks" for diverse online delivery, CD Rom, paper and as core materials for F2F workshops.
- When blending online and offline, online can be used to prepare and vet participants for the costlier F2F elements and continue learning afterwards online.

Narrative:
Andrew Nadeau of the Food and Agricultural Organization of the UN (FAO) has headed up their e-Learning initiatives, first under the IMARK banner (Information Management and Resource Kit http://www.imarkgroup.org/), and now under the FAO capacity development group, expanding to be the e-Learning developers for a wide range of FAO and partner projects. Some of their cornerstone projects have included "Food Security Information for Action," "The Right to Food in Practice," and "Enhancing participation in Codex activities" among others. (See also http://archive.unu.edu/elearning/workshop_200811/files/008_FAO.pdf) FAO also works with external partners for e-Learning development, as can be seen in their Climate Change project at http://www.fao.org/climatechange/learning/68306/en/.

Andrew shared the highlights of their specific curriculum design process really helps them work with intermediaries and which would be relevant for the Facility. This starts from the intention of training professionals and improving job performance, not university students. So they focus first on task analysis, not on covering all possible content. That just drowns the novice and is a typical mistake. FAO starts with experts and builds a topic list of job specific needs of the target audience. This approach applies to all kinds of training,

not just via e-Learning. From each task analysis workshop they produce an analysis document (example here: https://drive.google.com/?tab=mo&authuser=0#folders/0B-GyooazSJf9UXJiWUZuWE5HUGc) which is the base of the content development, instructional design and deployment. This is just part of the process which is fully described in their excellent on producing e-Learning http://www.fao.org/docrep/015/i2516e/i2516e.pdf.

FAO designs all their materials so they can be adapted for online delivery, CD ROM, paper and as core materials for F2F workshops. They pay particular attention to breaking things down into small but coherent chunks or "learning objects." Andrew noted that you "can pluck bits and they are reusable. This serves two purposes. First with your existing modules you can mix and match learning objects, distill bits out, and surgically update outdated stuff as needed. You can also cherry pick and design your own new curriculum with the bits. Universities do this -- the Univ. of Catalonia produces a masters in Food security using chunks from us. Chunks can be updated, remixed, translated."

Recently they implemented a successful blended project for food security policy for the Comprehensive Africa Agriculture Development Programme (CADAP). The model was facilitated online workshop, intensive F2F and follow up community support online. As per their process, they started with a capacity needs assessment to CADAP process to identify what was needed to help the CADAP process as it exists today. To impact policy makers, they needed to offer something that had immediate value to those people. These were senior audience people who had to make things happening on ground.

They next established clarity on the four main tasks the target audience needed to complete to do their job. They then mapped out knowledge elements and skills. They were surprise at the amount of needed soft skills which was not what they would have anticipated and not what they would have designed if they began with a purely subject matter focus. They identified that people did not know how to talk WITH each other -- they "simply bored each other with powerpoint."

Then they sketched out the online and F2F curriculum elements. The goals of the online pre-F2F section was to build baseline knowledge, have the participants do a country mapping exercise and collect data through a facilitated, cohort based online portion. This both prepared and grounded them in advance of F2F and helped FAO see who was committed, because completion of the three weeks online was a prerequisite for traveling and participating in the 2 weeks F2F intensive. The last 1.5 days of F2F was for creating an actual action plan with milestones, and practicing how to advocate their plans and ready to talk to their ministers. The emphasis was very practical and focused. (See https://docs.google.com/document/d/1GEEuDhT30EuzN-ClJ9lTu9uHfPAjBR97qrFqdkw9QOw/edit which includes descriptions of both the online and F2F elements of the program)

Post workshop participant experiences were very positive. They liked the workshops. They appreciated the proper targeting of participants who are high enough level to reach senior policy makers. From a results perspective, the immediate "win" was that participants were actually writing policies -- getting things going. It is still too early to say they if the participants are actually impacting policy, but early signs are good. Andrew identifies some of the critical success factors to be quality of assessment and content/instructional design, having a very high level, high reputation and excellent facilitator/subject matter expert who was willing and skillful working both online and offline, country level "on the ground" teams to help with planning and the linkages participants made with their ministries of Health to impact food and nutrition security. The biggest challenge was not being able to talk directly to the people at the top.

FAO's earlier self-paced modules, starting with the IMARK modules, have a huge potential to scale. FAO does not fully know how many people are reached. They have 103,000 registered users for the Food Security module as tracked by LINGOS, but don't know if they are downloading the material and sharing, how many times a CD ROM is shared or when user logins are shared.

When adapting the self-paced IMARK modules to facilitated, cohort based, time-delimited courses, FAO has been using the open source Moodle platform. However, FAO has recently shifted its own internal e-Learning to a commercial product that integrates with their HR system which introduces some compatibility challenges.

From a cost perspective, every module is different. Andrew estimates it is $5000-6000 Euros for every 30 minutes of e-Learning produced, including all phases from assessment workshop, instructional design, production team, and production in multiple formats. He finds that in house development cost is competitive with groups from Europe.

CATHOLIC RELIEF SERVICES E-LEARNING INITIATIVE

Sector: Agriculture

Delivery Method: Online e-Learning train the trainer offering with additional materials to be used on a demand basis as a F2F or distance learning delivery method. Trainers then delivery offline to field. There is a potential for mobile deployment.

Scale: Initial goal is to train 2000 trainers, and then, through negotiation with other external agencies like COMESA, white label the courses for the agencies to resell using their own branding. These agencies and partners can reach many more people -- into tens of thousands.

Cost: The cost (after initial development) is low enough so you don't need a very huge revenue (vs huge profit) to sustain the work. Consider the cost of F2F which is anything between $20,000 to $50,000 USD to do an in-country training compared to $40,000 - $50,000. Compare that to producing a course including writing, design, publish ready, inserting it into LMS, testing and publishing it. The scalability increases once you have used a course 2-3 times and have a network of implementing partners. The business model is still emerging. 80-90% of people CRS works with are paid, but increasing number of people taking those products and are paid to deliver them further out in the field. From this they are developing their own local market for the learning.

Evaluation: For evaluation to day CRS has deployed short surveys, to see what the trainers are doing. The LMS can score and grade learners the courses. Recently they have entered into a relationship with the Univ. of Illinois to set up a randomized trial to compare how well the field agents are doing with more standardized training compared to other projects where this is not being used. Said Ferris, "In the past we said we trained 40-50 and that was all we can say. Now we can name them, cite their score and name who they are training. We can connect this with what the M&E team is doing to evaluate performance on the ground."

Lessons learned:

- For localization in multiple languages, start in English then translate the content and localize the platform, instructional design and all other factors impacted by the cultural context.

- Work toward standardization, vs. start with it: The knowledge and people you start with will be diverse and it will be impossible to be and do everything. Initial efforts will set a baseline for standardization for training of learning, but you have to work with that wide diversity at the start.
- Quality product: Don't be driven by the technology. People are really excited about is the product. Content is incredibly important and it took a year to write each module to the appropriate literacy and knowledge levels of the users.
- Invest: The investment starts to become $600-700K for the whole project. Lesser products won't be accepted. The team promoted it with their management team and now they see that CRS can use the product to help people invest in the work CRS does. It is attractive to donors as well. It can scale more easily, deploy with multiple agencies and CRS can actually monitor it.

Narrative:
Shaun Ferris of Catholic Relief Services (CRS) shared the story of their current blended e-Learning initiative which is just passing their pilot stage and beginning fuller implementation. CRS is providing the primary resources with additional support for editing and graphic design was secured from USAID and MEAS.

Based on end user input from farmers in three countries across three continents, CRS identified five thematic areas and 2-3 focused e-Learning products for development. With 130 practitioners and 19 organizations, CRS dedicated significant time to digging into the content, testing their assumptions with farmers, and developing their initial implementation model. The key question they were trying to answer was "what made some farmer groups more successful in engaging with markets than others" and which skills farmers needed support to develop.

The model is a train the trainer approach, and creates guides via e-Learning for intermediaries, such as field agents or community leaders. The intermediary is offered the e-Learning, and they in turn expand the learning out to their geographic community using face to face methods. The learning strategy for the intermediaries was straightforward as described by Shaun. "You learn a concept, exercise to test understanding, quiz and learning product and then you have a lesson plan you can use with your clients/customers/farming group." CRS took those ideas and put them into an e-Learning platform. They spent a year testing those with 8-9 organizations to get feedback on content at right level, to determine if the learners understood and could act on it the new knowledge. They looked for what needed to be changed to scale out the process.

CRS's initial goals are to train their internal market of 2000, and then, through negotiation with other external agencies like COMESA, white label the courses for the agencies to resell using their own branding. These agencies and partners can reach many more people -- into tens of thousands. The cost (after initial development) is low enough so you don't need a very huge revenue (vs huge profit) to sustain the work. Consider the cost of F2F which is anything between $20,000 to $50,000 USD to do an in-country training compared to $40,000 - $50,000. Compare that to producing a course including writing, design, publish ready, inserting it into LMS, testing and publishing it. The scalability increases once you have used a course 2-3 times and have a network of implementing partners.

As if April 2013 CRS is 60-70% through the process. All the guides are written and they are more than half way through generating distance learning products. Artists do all the visuals for a high quality, visually pleasing product. An e-Learning platform (Honeybrain by Agillix which can be used online and offline) was selected and deployed at an estimated cost of $3USD per learner per year regardless of the number of courses the learner

takes. A mobile interface is available on IOS but CRS normally supports only a PC environment. So the offering is not fully mobile deployed, but it would not be a huge leap to do this.

Initial products are already in use in the field by those who are teaching others in the field (F2F). Field agent learns how to build a business plan, then they teach farmers how to do it and support them in writing their plans. There are many tests, learning content and exercises. All of these elements have been delivered previously through F2F with fairly traditional methods. The current approach is hybrid between F2F and distance learning. We focus on 25 people with a computer and we're there to guide, interpret, connect the dots for them, then they take it to the field for F2F deployment.

Because CRS works in multiple language environments they have another team that takes the English language products and produces interpreted version starting with cultural and linguistic adaptations of the instructional design and then translate and rebuild the content in another language. So far they have done all of their products in English, and translated the first ones into French, Spanish and Swahili. Localization is going to be very important and CRS has suggested to partner African institutes that relying on the 3-4 dominant languages may not push the knowledge out far enough. CRS suggested where it is the best thing to do is to translate then rework in local language. Additionally, some countries like Ghana have expressly said they don't want it in different language. People know enough languages including English and it is much more complicated to take emergent knowledge back out of 3-4 local languages and share that learning back to the global work in English. But where Swahili or French is dominant, translation is essential. Shaun estimated that it takes 4 months to put in LMS, 2-3 months to translate and re input into the LMS, including text and audio/video voice overs changes.

In the longer term CRS's ambition is to do more distance learning, and do less F2F with CRS staff and do more local F2f facilitators. This helps situate the learning locally, rather than some distant NGO. The business model is still emerging. 80-90% of people CRS works with are paid, but increasing number of people taking those products and are paid to deliver them further out in the field. From this they are developing their own local market for the learning.

For evaluation to day CRS has deployed short surveys, to see what the trainers are doing. The LMS can score and grade learners the courses. Recently they have entered into a relationship with the Univ. of Illinois to set up a randomized trial to compare how well the field agents are doing with more standardized training compared to other projects where this is not being used. Said Ferris, "In the past we said we trained 40-50 and that was all we can say. Now we can name them, cite their score and name who they are training. We can connect this with what the M&E team is doing to evaluate performance on the ground."

Some of the lessons CRS has learned include:

- Work toward standardization, vs. start with it: The trainer of trainer guides must accommodate training for field providers have little standardization or shared experience in their work. People are used to using and sharing what they knew when they were hired. It is impossible to know if they got training at field level, what types of training, and what was delivered to the end client. This effort will set a baseline for standardization for training of learning, but you have to work with that wide diversity at the start.
- Quality product: You should never be driven by the technology, and you have to learn this by doing it. What people are really excited about is the product. What CRS found was in order to get a product attractive to use, they had to build a high quality product. Content is incredibly important and it took a year to write each module. They had teams of people doing different things; writers, editors, content

managers and subject matter experts. They had to "translate" expert knowledge to the appropriate literacy and knowledge levels of the users. ,

- Invest: When they initially proposed a budget, people were horrified. They thought it should be 2K, not 50-50K per product. The realization was that the investment starts to become $600-700K for the whole project. Unless you make that investment you don't have a product to go to the market with. Lesser products won't be accepted. "All ships in." Go for it. The team promoted it with their management team and once they saw what they were doing, they liked it and saw they could build a broader strategy around that. They see that CRS can use a product to help people invest in the work CRS does. It is attractive to donors as well. It can scale more easily, deploy with multiple agencies and CRS can actually monitor it.

For more information see:

- Platform:http://agilix.com/ and http://agilix.com/products/brain-honey/
- http://crs.org/agriculture/, http://www.crsprogramquality.org/five-skill-sets-for-farmers/
- Additionally they are developing collaborative data collection software http://www.farm-book.biz/
- An example of a module http://www.crsprogramquality.org/storage/pubs/agenv/getting-to-market.pdf

LINGO'S E-LEARNING INITIATIVES

Sector: International development organization's own internal learning needs with a focus on project management.

Delivery Method: Primary focus on self-paced e-Learning but successfully experimenting with blended learning. New "Last Mile Learning" initiative will offer a range of options and focuses on collections of content into "learning paths."

Scale: 200,000 registered learners on LINGO's platform with 80,000 course completions to date. Last Mile just launched April 2013.Separate PMforNGO's platform provides additional scale.

Cost: LINGOS works with organizations to provide significant in kind donations for course development. Scaling from 200,000 to millions doesn't yet have a strong business model. Mike says "Where we are going with LML is we want to provide the learning free of charge in each of the formats we provide and on all of the topics we cover. Curriculum for F2F, learning and blended, synchronous and asynchronous. FAO has done some of this which I really commend them for doing. We want to provide that all free of charge. At the same time, we think there is a deployment model. We provide those free of charge to individuals who want to take the course. Use model where organizations want to manage these resources via LMS to track and manage. A single organization, a consortia of NGO, a government ministry, training group that wants to provide these resources as a further benefit to people who attend their F2F. That might be a revenue source. We provide learning to individuals. We sell service to orgs to manage that service."

Lessons learned:

- Focus on core issues and do those right --the things that are really important. Don't try and cover everything.
- Blended/tech assisted is not a cheap alternative second best to F2F, but an alternative with additional benefits. Learners' results as high as F2F. Cost per learner is less. And there is this great community developing, exchange of ideas between orgs, offices, regions, countries: weaving the network. That is lost a lot in F2F.

- Look at public-private issues in your curriculum that cross NGO and business sectors. Look at causal chains to see where issues cross from government /private to individuals. NGOs tend to act like they are working in a bubble and they design their log frames accordingly.
- Look and see what the innovators are doing: See Tom Coleman in Tacoma who runs their customer community of practice for the e-Learning company Articulate (http://www.articulate.com/). Rather than approach customer support like most software companies Tom encourages the community of followers to contribute to the site with their self-generated content on what they are doing, their problems, and solutions.
- Deployment models: Understand if you can/want to staff any tech support yourself. LMSs that allow you to track and manage learning groups, like Moodle (free and open source - software is free, but managing it is not.) are good if you don't want to manage technical support, data backup, server configuration, etc. No matter what they choose to do, this is not plug and play. It requires support in some way or another and the question is how much support you will provide. You can't do anything for free.

Narrative:
Mike Culligan of Learning in NGOS or LINGOS (http://www.lingos.org), shared his experience with developing e-Learning in the international development context, and their new initiatives to begin scaling learning in particular domains more broadly than within LINGOS' own partnership network. From their website:

> Created in 2005 as a means and community for organizations to share learning resources…LINGOs also serves as a central contact point for private sector organizations and individuals interested in assisting the sector who want to see their contributions of software, courseware, systems and services be leveraged across many organizations. LINGOs' Partners, learning leaders in the private sector, donate or subsidize access to their Learning Management Systems, e-Learning development tools, synchronous, virtual classroom software, and industry-leading course catalogs through LINGOs to member agencies.
>
> The LINGOs operated Learning Management System (LMS) contains hundreds of courses, both from our partners and shared by our member agencies, on Leadership and Management Development, Information Technology, Project Management, Stress Management for Humanitarian Workers, Personal Safety and other topics. …By providing a community for sharing learning resources and experiences, and the latest learning technologies and courses from our partners, LINGOs helps international NGOs increase the skill levels of their employees and therefore increase the impact of their programs.

Most of LINGOS' e-Learning efforts focus on self-paced e-Learning. With over 200,000 people registered on their site and 80,000 course completions, LINGO's consortium model has allowed their members to put a focus on the use and adoption of e-Learning rather than on content development. In other words, focus on how the learning is used.

Mike shared that several years ago LINGOS decided to focus on project management skills as an area no one was addressing. So it did not carry organization "turf" issues like topics on monitoring and evaluation, for example, carries. There was high value and high risk in the topic. So LINGOS developed a curriculum based on a body of knowledge and then got it accredited by an accrediting organization and with certification came rigor. It was fully contextualized to the development context. Over 5000 people have been certified. and the offering

is quickly being adopted by a number of organizations as a standard for their organizations. WorldVision is using it for all Africa offices, PATH is looking into it as is CRS, etc. Lot of organizations are saying 'we didn't know this is a priority before, but it is now." This may have parallels to information on the domain which is not yet commonly understood across the sector.

LINGOS made everything free and open source and did not brand the modules with LINGOS. They created a separate brand and platform, PMforNGOs, so other people can take it and run with it. Now others are training on it as well. It has been a successful experiment and now LINGOS can more deeply explore scale.

More recently LINGOS has started doing blended online training of this which Mike noted as surprising. LINGOS has been all about technology, but they do a lot of F2F. They are open to any format. Currently 30% of partner certification implementations are blended/online and the test results are as high or higher on certification with the blend compared to F2F. The cost of 3-4 day F2F workshop (depending on provider) range from $800 without lodging/travel to $2000 per learner. The blended costs is $200 per learner. So they have achieved significant reduction in costs and results are just as good or better.

What LINGOS is finding around off the shelf content (2000 titles but they traditional only talk about "several hundred" as the larger number overwhelms people) that is most appreciated and successful are titles are from e-Cornell. They are in a blended format where learners have to submit assignments, there is an instructor facilitator, and the offering is associated with well-known university. Participation is tracked and a certificate is given with completion of specific sets of courses. It is a very rigorous program that people find challenging and successful.

LINGOS is now looking at new ways to scale learning with the release of Last Mile Learning (LML http://lastmilelearning.org/site_build/www/index3.php). LML is designed to break the binds of LINGOS's traditional membership model which was to provide services to organizations in a specific alliance. LML is to get beyond international NGO types and work with anyone who is working for poor and vulnerable communities regardless of type of organizations, including the types of LTPs the Facility has been considering. LML could provide "LMS light", in other words, set up and support a LMS that organizations could use to deploy e-Learning. From a content perspective, LML could provide courses to the organizations free of charge through LML, or they can use their own courses. The LMS could track and manage the courses they deploy. Multilingual? To start with English, French, Spanish, Portuguese and think they can do more. They are very interested in working in Arabic, but are not there yet.

LML has launched via "learning paths" with two up now. They could have waited for more learning paths but needed to start hitting pavement to getting donor support, even though they released with a little bit of trepidation. By the end of 2013 they expect to have 8 learning paths done. Each will have between 5-7 topics/courses. Subsequent years they intend to continue on pace quickly offering over 100 courses on contextualized, relevant topics. There will be learning paths on people management, project management, team management, self-management, social enterprise management (org dev for NPOs), participatory methods, a 5 course series (w/ MSFT help) on financial management for NGOs, and with MANGO curriculum out of UK. Hope to also employ a strategy where they use the FAO agricultural materials as a learning path giving them at least 2 methodologies of filling out the content: self development and entering into other networks who have content. Today if materials were ready, LINGOS, through its network, has channels to 200,00 regular learners. They can offer that today. LML can dwarf that but is just getting started.

There is tension around sharing the idea that LINGOS wants to make learning available to anyone free of charge whatever their needs are. That's where they start. Others start at "I have a business, it has to be financially secure and THEN what business can I provide." How to scale and sustain beyond initial donor funding is an issue that LML is struggling with. They found answers in traditional LINGOS first two lines of business, but this last one - scaling from 200,000 to millions --doesn't yet have a strong model. Mike says "Where we are going with LML is we want to provide the learning free of charge in each of the formats we provide and on all of the topics we cover. Curriculum for F2F, learning and blended, synchronous and asynchronous. FAO has done some of this which I really commend them for doing. We want to provide that all free of charge. At the same time we think there is a deployment model. We provide those free of charge to individuals who want to take the course. Use model where organizations want to manage these resources via LMS to track and manage. A single organization, a consortia of NGO, a government ministry, training group that wants to provide these resources as a further benefit to people who attend their F2F. That might be a revenue source. We provide learning to individuals. We sell service to orgs to manage that service."

Mike's lessons learned include:

- Focus on core issues and do those right --the things that are really important. Don't try and cover everything.
- The subtext of blended models: 30% blended with results as high as F2F is significant. There is this great community developing, exchange of ideas between orgs, offices, regions, countries: weaving the network. That is lost a lot in F2F. With strong and stronger data enables Mike to say that blended/tech assisted is not a cheap alternative second best to F2F, but an alternative with additional benefits.
- Look at public-private issues in your curriculum. Mike hasn't seen anything that crosses NGO and business sectors. In the past there was stuff in the domain field, more of a study/value chain analysis. Look at causal chain to see where issues crossed from government /private to individuals. NGOs tend to act like they are working in a bubble and they design their log frames accordingly.
- Look and see what the innovators are doing: One of Mike's favorite learning people is Tom Coleman in Tacoma who works for the e-Learning company Articulate (http://www.articulate.com/) who runs their customer community of practice. Rather than approach customer support like most software companies - screen recordings on site - he started the Rapid E-Learning blog (http://www.articulate.com/rapid-elearning/) with 10,000 subscribers. Tom encourages the community of followers to contribute to the site with their self-generated content on what they are doing, their problems, and solutions.
- Deployment models: Mike says it depends on if you want to staff any tech support yourself. LMSs that allow you to track and manage learning groups, like Moodle (free and open source - software is free, but managing it is not.) are good if you don't want to manage technical support, data backup, server configuration, etc. No matter what they choose to do, this is not plug and play. It requires support in some way or another and the question is how much support you will provide. You can't do anything for free.
- Cost issues: If you are looking how to start from a vendor bid and get it 50% lower, Mike knows how to get it lower leveraging the project management triangle of time, budget, quality --> choose two! Also Mike is working pretty with the Virginia Tech Instructional Design program and has access to young, talented teams.

APPENDIX B: OPTIONS FOR INSTRUCTIONAL METHODS TO SERVE LEARNING GOALS

This table was created to compare methods to learning goals. If a particular option appears useful, then it is worth deeper analysis and consideration.

Category of Instructional Method	Learning Goal	Teaching Method	Possible Delivery Formats	Individual or Group Oriented	Best Suited to F2F, Online or Offline
Expositive Methods	Facilitate knowledge acquisition (mainly conceptual and factual knowledge), orientation, motivation, attitudinal change	Presentations, case studies, worked examples, demonstrations	Simple learning resources (documents and PPT presentations)	Individual	Online, Offline
			Interactive e-learning lesson	Individual	Online, Offline
			Webcasting (video lessons and podcasts)	Individual	Online, Offline
			Webinars (video conference, audio conference, chat-based) Virtual classroom	Group	Online
Application Methods	Develop procedural skills	Demonstration-practice method	Combination of animation and operational simulation	Individual	Online, Offline
			Virtual classroom (using application sharing)	Individual	Online
	Provide just-in-time information and guidance	Job aids	Printed documents such as checklists, technical glossaries, templates, manuals Online help and expert systems	Individual	Online, Offline, F2F
	Develop job-specific cognitive skills	Case-based exercises	Interactive e-learning lesson	Both	Online, Offline
			Electronic simulation based on branched scenarios	Individual	Online, Offline
			Individual tutored activity	Individual	Online, F2F
			Online group activity	Group	Online

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	Develop interpersonal skills Stimulate attitudinal change	Role Plays	Interactive e-learning lesson	Individual	Online or Offline
			Electronic simulation based on branched scenarios	Individual	Online or Offline
			Online group activity	Group	Online
	Develop deep understanding of complex system	Simulations and serious games	Symbolic simulations	Both	Online, Offline
			Learning games	Both	Online, Offline, F2F
	Active knowledge construction	Guided research/Action research Project work	Discussion forum, e-mail, chat, audio and video conference Wiki, blog, shared documents	Group	F2F or Online
Collaborative Methods	Stimulate critical thinking and reflection Facilitate communications among learners Develop interpersonal skills Stimulate attitudinal change	Online guided discussion	Discussion forum, e-mail, chat, audio and video conference	Group	F2F or Online
	Stimulate critical thinking and reflection Facilitate communications among learners Develop interpersonal skills Stimulate attitudinal change	Collaborative work	Discussion forum, e-mail, chat, audio and video conference wiki, blog, chat, shared documents	Group	F2F or Online
	Stimulate critical thinking and reflection Facilitate communications among learners Develop interpersonal skills Stimulate attitudinal change	Peer tutoring	Discussion forum, e-mail, chat, audio and video conference. F2F. wiki, blog, chat, shared documents	Group	F2F or Online

APPENDIX C: LEARNING/TRAINING PROVIDER OPPORTUNITIES

This table builds on the sponsoring organization's initial assessment of the existing providers in their domain, and adds two additional columns identifying potential offerings as well as business model and other needs.

Type of provider	Outreach	Strengths	Risks	Potential Offerings	Business Model & Needs
Universities and business schools	Cater to those looking for high quality learning, with sufficient prerequisites and ability to pay or be funded externally	Credibility/Brand Infrastructure MI content relevant to existing offerings	Lack of demand for domain services Over stretched or lack of skilled faculty	Courses Training of Trainers Content development & Certification Instructional design	Up front funding for development of new offerings End user (learner, insurance company) pay or funding for participants
Government institutions	Role in domain for, supervision and compliance topics; reaches many audiences	Credibility/ brand & training infrastructure Aligns with government role of policy, regulation and compliance.	May only have narrow focus May need training of trainers training.	Trainings with built in incentives for learners supporting initiatives	Needs mandate (political, data driven, or other), and budgetary discretion Training costs could be built into initiatives (public, or partnerships)
Sector training institutions	Work with sector professionals May exist nationally and regionally; fairly common in all countries. Attract diverse practitioners across the domain value chain and with diverse existing skills	Credibility/ brand & infrastructure for sector training products directly related to domain Value proposition alignment due to close link to domain content Likely training delivery skills adaptable to the domain	Lack of demand, value proposition in emerging market MI may not be currently covered & may need ToT training	Host globally produced content Localization of content Hosting/facilitate seminars, workshops, courses, & train the trainers May want to train/Sponsor own staff	Dependent on donor funds or other external funding at least for start up, could be learner pay in future Needs strong evidence of market potential Needs quality assurance partner & mechanisms, and M&E guidance
Not-for-profit training institutions	Cater to not-for-profit organizations Attract diverse practitioners across the domain value chain and with diverse existing skills	Credibility/ brand and infrastructure in development focused training directly related to the domain Expertise in low-income market Viable potential market size	Niche, small institutions not globally common Domain may not be currently covered & need ToT training Questionable organizational viability	Host globally produced content Localize content Host/facilitate seminars, workshops, courses and ToTs May want to sponsor own staff	Dependent on donor funds or other external funding for startup, eventually potential learner pay Needs strong evidence of market potential for payment by learners Needs quality assurance partner & mechanisms, and M&E guidance
National or Multi-National Not-for-profit	Attract practitioners from different parts of the domain value	Some training capacity (formal or ad hoc) and domain	MI may not be currently covered & may need ToT	Host globally produced content	Dependent on donor funds or other external funding

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organizations with training capacity	chain. Likely to exist globally May have network of possible trainees	expertise Motivated by market potential Knowledge of the target market Can provide holistic capacity building & post-training support	training Questionable organizational viability	Localization of content Host/facilitate seminars, workshops, courses, & train the trainers May want to train/Sponsor own staff	Needs strong evidence of market potential for learner to pay Needs quality assurance partner & mechanisms, and M&E guidance
Associations	Exist at the national, regional and global levels Established network of potential sector related trainees Cater to the training needs of their members	Motivated to provide domain training due to close link to insurance	Not all associations offer training /might not have existing infrastructure or expertise Domain may not be currently covered & need ToT training May need skills in training low income market	Hosting of globally produced content, localization of content, hosting/facilitation of seminars, workshops, courses, train the trainers, and certification Might have financial incentives to sponsor as a way of building the market(??)	Funded through member contributions so self-sustaining Likely have a broader funding pool interested in domain Funding risk if association is weak. Quality assurance partner/mechanism, M&E guidance?
Research institutes	May provide training to domain industry practitioners in insurance Potential to attract practitioners from across the domain value chain Fairly common institution globally	Motivated to provide training in domain if linked to current research Bring in-depth knowledge and tools based on the latest research findings Could partner with LTPs to provide M&E	May not have training expertise	Content development, localization, train the trainers, provide trainers themselves if there is some research opportunity, M&E services.	Funding depends on their research portfolio and might need proof of strong viability of the domain training to risk providing it. Partnerships with other LTPs
Domain related companies in-house training department	Cater to employees of the company and potentially of partners and other partners in domain Ready venues and clientele Organizations likely to exist globally	High potential to respond to training demand Can bring in-depth knowledge of domain and strong possibility for relevant application of content	May not have training or SME capacity Scope could be limited to internal staff only Need for specialized adaptation of content to company context	Hosting of globally produced content, localize content, host/facilitate seminars, workshops, courses, train the trainers, and certification Might have financial incentives to sponsor as a way of building the market	Funding likely accessible from the company funds Quality assurance partner/mechanism, part ners for global content, M&E guidance?

			Domain may not be amongst the topics currently covered		
Individual consultants and consultancy firms	Outreach to own network (varies in size) Fairly common globally but with small outreach potential	High potential to respond to training demand and with in-depth knowledge if domain is a competency area	Rarely have an exclusively domain focus & capacity May not have long-term commitment to sector Limited outreach/visibility May not be affordable to prospective clients	Be trained as trainers. Host globally produced content Localize content Host/facilitate seminars, workshops, courses, & train the trainers Provide M&E/Quality assessment, support of P2P or other forms of mentoring	Market-driven and sustainable because price to cover costs Might partner with other learning and training providers to design a business model for provision of types of learning, etc.