Building capacity for effective online learning tailored to regional needs
The advantages of virtual learning

Made possible through innovative technology and wider internet access, virtual courses are scalable and sustainable, and provide several advantages, including:

**A more customized way of learning:** Trainees are allowed to learn at their own pace and time. Tutors and teachers can instruct from anywhere and at any time, and their class is brought to life through a learning platform.

**A means to bridge the distance:** Virtual learning helps trainees achieve their learning objectives and foster the creation of the communities, peer groups and collaborative teamwork essential for advancing One Health work.

**Greater cost-effectiveness:** Virtual learning only requires a working internet and a device, which can be a smartphone, tablet or laptop.

**Reduced environmental footprint:** Virtual learning removes the need for trainees and trainers to take planes or other means of transport to meet in a physical venue.

**A wider reach:** Virtual learning makes it possible to reach large and disparate demographics at the same time.
The Virtual Learning Centers (VLCs) are virtual hubs established to develop and improve One Health capacities in all FAO regions. Our mission is to provide our trainees with access to inclusive, engaging and high-quality training using a variety of methodologies.

There are currently six VLCs, with at least one VLC established per FAO region:

- VLC in Latin America and the Caribbean (VLC RLC)
- VLC in Europe and Central Asia (VLC REU)
- VLC in the Near East and North Africa (VLC RNE)
- VLC in Eastern Africa (VLC SFE)
- VLC in Southern Africa (VLC SFS)
- A new VLC in West Africa will be established in 2023

VLC in Asia and the Pacific (VLC RAP SAP):

- This VLC has a dedicated section for the Pacific, to ensure the particular needs of this subregion are taken into account.

The VLCs follow a decentralized model that empowers FAO regions to develop and deliver courses that closely consider regional needs and context. This model also makes it possible to scale up the delivery of courses and share resources and good practices between VLCs.

By the end of 2021, six VLCs were established in all five FAO regions. Each of them comprises a VLC Coordinator, who is in close contact with countries’ training focal points. The VLCs are coordinated by an FAO team based in Rome.

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What do the FAO Virtual Learning Centers do?

VLC courses
Since the establishment of the first hub in Southern Africa, the VLCs have offered courses in three main areas: One Health capacity development; animal health and production; and agroecology. Courses are available in a range of formats, including online tutored courses, blended learning, technical webinars and mobile learning.

Our audience: Virtual Learning Centers’ trainees
The VLCs’ training courses target country actors in the areas related to FAO’s One Health mandate, including government officials and technical staff, programme and project coordinators, practitioners and professionals working in the field, such as veterinarians, animal health workers, experts in forestry, wildlife, aquaculture and fisheries, in addition to public health experts. Our trainees are located around the world and come from a variety of institutions. They include government staff, university students and researchers, and members of the private sector.

FAO virtual communities
Most VLC courses are tutored, and therefore they combine convenient self-paced study with a unique opportunity to discuss and network with international experts and regional colleagues. Networking occurs through online discussion forums, live virtual sessions, social media and messaging platforms. Participants share knowledge on the concepts of the training under the guidance of trainers, linking this knowledge with observations in their home countries. Often colleagues in different countries experience similar challenges and virtual networking allows us to come up with locally appropriate and innovative solutions. The VLCs can therefore work as a platform to facilitate South-South Cooperation.

VLCs and the Sustainable Development Goals
The VLCs directly contribute to the Sustainable Development Goals (SDGs), specifically SDG 1 (no poverty), SDG 2 (zero hunger), SDG 5 (achieve gender equality) and SDG 10 (reduced inequalities). The VLCs trainings contribute to improving the productivity and sustainability of agriculture and food production systems by building the skills of a range of actors along the value chain (SDGs 1 and 2). In addition, the VLCs strategic deployment across regions, with trainees able to study courses free of change and at a time and place most suitable for them, ensures access to all (SDG 10). Furthermore, the VLCs consider the impacts of gender on accessibility to online training resources, with the aim of understanding and bridging any gaps that exist (SDG 5).
The power of instructional design

Online education is constantly evolving and there are a wide variety of learning approaches, methodologies and tools available to us. The VLCs aim to choose the most appropriate learning solution according to the individual needs of the learners and the specifics of the knowledge and skills to be developed. The courses are designed to be engaging, interactive and fun to study!

This is why our team of instructional designers is so important. This globally-based team supports effective use of online learning technologies throughout the course development process, from the initial conceptualization, through to the needs assessment and the design of the learning materials and tools themselves.

Collaborative approach to course development

The VLCs follow a collaborative approach to create courses. The instructional design team works closely with subject matter experts and with those who best understand the learners’ individual needs throughout the course development process. Working hand in hand in this way ensures that the final product meets both the subject matter experts’ and learners’ expectations.

Course development relies on needs assessment

The development of any course requires an initial scoping phase to:
• Assess training needs and regional priorities.
• Map available resources.
• Define the target audiences and understand the best modality for delivery, always taking into consideration trainees’ environment and access to connectivity and learning devices.

Once the initial needs analysis is done, the best course modality will be selected, considering the course objectives, target audience and context. This includes the overall course modality and the modality of individual activities. We view the course development process as a cycle of constant learning and review and revise courses based on the feedback we receive from our learners.

Our virtual learning environment

The VLCs use a learning management system (LMS) called Moodle. This platform hosts all of our training courses and allows trainees to access a wide range of training resources. The LMS stores each individual learner’s progress through course activities and facilitates monitoring by course tutors who can then provide tailored support as needed.
Course modalities

The VLCs offer online learning courses in a range of different modalities, tailored to particular learning needs. Some common course modalities are given below.

Self-directed courses

These courses are freely available on the VLCs platform for anyone, anytime. They typically consist of a series of self-directed interactive online modules followed by a multiple-choice assessment. These courses are typically quite short and suitable for rapidly transferring knowledge to large numbers of learners in a cost-effective manner.

Tutored virtual courses for large audiences

These tutored courses target large audiences of regional or field-based workers. The courses make use of a combination of live webinars, asynchronous discussion fora, interactive online modules, quizzes and assessments.

In-depth virtual courses

These courses aim to build advanced skills, particularly for a group of people highly specialized in a given topic. The courses include the more intensive tutorial support needed to build these advanced skills.

Webinars, live online workshops, online discussion fora, interactive modules and/or pre-recorded presentations and further reading materials are combined with a series of assignments and problem based learning exercises, which are tutored marked and/or peer reviewed.

Assignments aim to generate outputs that can then be applied in the national context (for example the design of a research study or disease control plan).

Blended learning

Blended learning approaches combine face-to-face and online learning experiences. Each modality is used for its particular strength. Often, virtual learning is first used to transfer knowledge through the provision of interactive self-study modules, videos and reading materials. Face-to-face training can then focus on the application of this new knowledge in practical sessions, discussions, workshops and applied exercises. This “flipped classroom” approach means that we can make best use of face-to-face training, which tends to be limited by financial and time constraints, by ensuring these sessions are applied and allow learners to discuss collaboratively with both tutors and peers. There is no need to spend precious face-to-face time on lecture format teaching. Indeed, moving this type of learning online is often more effective since each learner can study materials at their own pace.

Translation and regionalization

Many of the VLCs courses are specifically designed to be easy to translate into additional languages. Translation into local languages is vital in allowing our courses to reach as wide an audience as possible. Each regional VLC is also involved in tailoring courses to individual regional needs and courses are developed so that such regionalization can be managed quickly and flexibly.

You can visit the VLCs platform here: https://virtual-learning-center.fao.org/
Virtual successes

African swine fever courses

THE PROBLEM
ASF is a viral disease of domestic pigs and wild boar with a fatality rate of up to 100 percent. ASF introduction to a pig population leads to huge economic losses, trade disruptions and challenges to the livelihoods of pig keepers. This transboundary animal disease has been rapidly spreading, and has had a significant impact in the affected countries, including on smallholder farms. In many cases these countries were not sufficiently prepared to fight against ASF.

VLC APPROACH
tailor-made solution to ASF
The objective of the ASF online courses was to improve the capacity of veterinarians and veterinary paraprofessionals to:
• carry out an outbreak investigation in cases where ASF is suspected; and
• explore available control measures.
The VLC in Europe and Central Asia developed a course on ASF, which was then adapted by the VLCs in other regions by revising and translating modules, and creating examples more suitable to the local context. These include the following examples:
» The VLC in Asia and the Pacific developed mobile-first modules for those who study using their smartphones in remote locations.
» The VLC in Latin America and the Caribbean was able to quickly respond to the ASF emergency in the region, as outbreaks appeared in the Dominican Republic and Haiti, by offering the course in Spanish to multiple countries.
» Following the ASF crises in Eastern Europe, the course has been translated into Russian.
» The VLC in Southern Africa received funding for the lead trainers from the South African Pork Producers Organization, an example of a public-private partnership in capacity building.

THE RESULT
There has been an overwhelming response to the call for nominated participants for the ASF course, with submissions coming from Chief Veterinary Officers and from independent applications in each region.

583
people were reached in Asia (33 countries)

372
in Southern Africa (15 countries)

306
in Europe and Central Asia (12 countries)

320
in Latin America and the Caribbean (11 countries)

RIPPLE EFFECT
The online discussion forum in the ASF course enabled colleagues and experts to network and share knowledge. Opportunities have arisen which have facilitated the cascading of training at country level and the development of specific courses for farmers and other stakeholders.
The poultry farmer field school (FFS) course for facilitators and master trainers

THE PROBLEM
Poultry production and health require knowledge of good practices in animal husbandry, biosecurity and food safety. In addition, appropriate use of antibiotics is an important driver of antimicrobial resistance (AMR) emergence, one of the biggest health threats the world is currently facing. This course aimed to support facilitators of FFS to cascade appropriate knowledge on how to prevent AMR to poultry farmers.

VLC APPROACH
The course was developed by a multidisciplinary team from different parts of FAO, including the Animal Production and Health Division, the Global Farmer Field School Platform, and FAO country offices in Kenya, Zambia and Zimbabwe.

Trainees accessed learning materials in the form of videos, pre-recorded presentations and other interactive materials on a dedicated course page. They also interacted with experts on poultry production, FFS and AMR in an interactive discussion forum and live sessions, including live presentations and group discussions.

THE RESULT
A total of 47 participants (18 women and 29 men) consisting of trained FFS facilitators from Zambia and Zimbabwe took the course to expand their knowledge on poultry production and AMR.

The course has led to the following:

More Informed farmers:
The facilitators will use their learning to train poultry farmers and increase awareness about appropriate antimicrobial use.

More sustainable and efficient production systems for family poultry producers with less antimicrobials.

RIPPLE EFFECT
The course has been initially rolled out in Zambia and Zimbabwe. Efforts will be made to establish collaborations for the extension of the training in other countries in the region and beyond. The trained personnel will be empowered to go out and make use of the skills gained to cascade knowledge and to facilitate the FFS. In addition, the FFS concept can be applied to other animal species to address production and health issues.

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