UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
Knowledge Sharing, Training and Capacity Development Branch
Division on Technology and Logistics

Report of the Ninth Meeting of the

UNCTAD Advisory Group on the Strengthening of Training Capacities and Human Resources Development

Geneva, Palais des Nations, 10 December 2013

Developing Skills, knowledge and capacities through innovation: E-learning, M-learning, Cloud-Learning

Summary

The ninth UNCTAD Advisory Group focused on the development of skills, knowledge and capacities through innovative tools such as E-learning, M-learning, and cloud learning. Experts from UNCTAD and participating international organizations, universities, permanent missions and private enterprises assessed and discussed technological trends in the field of E-learning for development, in particular cloud learning, massive open online courses (MOOCs) and M-learning. The Advisory Group commended UNCTAD on its efforts to integrate innovative learning solutions into course development and delivery, and they recommended that this practice be reinforced. The group stressed the importance of using information and communication technology (ICT) that is adapted to the target population, considering the available technology and learner's motivation. Further, the experts underscored that ICTs are most effective when they are used to enhance the learning experience, rather than to replace the traditional modes of learning.

I. Introduction

1. The UNCTAD Advisory Group on the Strengthening of Training Capacities and Human Resources Development was established in 2001 in response to the recommendations endorsed at the 38th session of UNCTAD's Working Party on the Medium-term Plan and the Programme Budget[1]. The Group is expected to examine the evolution of UNCTAD's training and capacity-building activities in order to determine the elements needing to be strengthened, developed or modified; and to put forth proposals to enhance the work being carried out by UNCTAD in this area.

2. This year the Advisory Group focused on the development of skills, knowledge and capacities through innovative tools. Experts from UNCTAD and from the following international organizations, government representations, private companies and universities attended the meeting:

- International organizations: The United Nations Children's Fund (UNICEF), The Office of the United Nations High Commissioner for Human Rights (OHCHR) International Telecommunications Union (ITU), International Committee of the Red Cross (ICRC), UNAIDS, International Labour Organization (ILO), International Road Transport Union (IRU), International Organization of Migration (IOM), International Agency for Research on Cancer (WHO/IARC), International Trade Centre (ITC), World Trade Organisation (WTO), World Food Programme (WFP) Learning Strategies International (lSi), International Training Centre of the International Labour Organisation (ITC-ILO), the Council of Europe.

- Private companies: eLimu; Google (through live video conference).

- Universities: Universidade Aberta of Portugal and the University of Dakar

[1] TD/B/WP/144, 17 July 2001.

- Government: EU Delegation, Permanent Mission of Spain, Permanent Mission of Canada, Permanent Mission of Morocco; the National Research Council of Canada (through live video conference).

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II. Outcome of the meeting

Recommendations of the experts

3. The experts from UNICEF, OHCHR, ITU, ICRC, UNAIDS, ILO, IRU, IOM, WHO/IARC, ITC, WTO, WFP, lSi, ITC-ILO, ITC, the Council of Europe, the Universidade Aberta of Portugal, the University of Dakar, the National Research Council of Canada, the EU Delegation, the Permanent Missions of Canada, Morocco and Spain that gathered in Geneva on 10 December 2013 for the 9th meeting of the UNCTAD Advisory Group on Strengthening Training Capacities and Human Resources Development:

- *Commend* the UNCTAD Secretariat for the organization of this meeting on "Developing skills, knowledge and capacities through innovation: E-learning, M-learning, Cloud-Learning", which discussed innovative solutions that could be implemented by international organizations, universities and the private sector to build and share knowledge;

- *Appreciate* the results achieved by the TrainForTrade programme using information and communications technologies (ICTs) to support developing countries, in particular the least developed ones, in building sustainable trade-related knowledge;

- *Commend* TrainForTrade's efforts to integrate M-learning in the course development process;

- *Stress* the importance of UNCTAD's choice to use ICTs as a tool to improve access to pedagogical materials and training, deliver training and facilitate knowledge sharing, in order to increase the number of those who can be reached while reducing the cost of the activities;

- *Take note* of the initiatives of other organizations such as ITC-ILO, Google, the National Research Council of Canada, the University of Dakar and eLimu in the field of E-learning;

- *Express their appreciation* for the kind availability of the representatives of such organizations and universities to come and share their practices on how to better use ICTs to improve knowledge building and sharing, and to discuss the way forward to strengthen the impact and relevance of E-learning activities.

- *Recommend* that the UNCTAD Secretariat:

- Continue to strengthen its action aimed at enhancing developing countries' training capacities in the field of trade and development through its TrainForTrade programme;

- Recognize the importance of allocating significant resources to the development of technical cooperation projects on E-learning, training and capacity building;

- Reinforce the TrainForTrade team, to continue developing high-quality online courses and maintain high-standard online delivery, especially in developing countries;

- Encourage TrainForTrade to research on the most effective manner to incorporate cloud learning and open online courses into their E-learning strategy;

III. Opening ceremony

4. Ms. Geneviève Féraud, Head of UNCTAD's Knowledge Sharing, Training and Capacity Development Branch, introduced the topic of the meeting and elaborated on the evolution of knowledge management. When Knowledge Management theory first appeared in 1995, the concept was at the intersection of people, processes and technology. Over the past 25 years, these three components have evolved and led to innovative approaches within the organization, to such a degree that Ms. Féraud posits it is now more appropriate to speak of Knowledge Development. Regarding people, we have realized how important it is for those involved in our organizations, at all levels, to continually learn and improve their capacities. This has led to the concept of the learning organization. With regard to processes, we have recognized that these must be flexible in order for our organizations to proactively respond to changes in our professional environment. This has led to the concept of the agile organization.

5. In relation to the evolution of the final component, technology, three aspects merit our attention. First, the mass of information available has grown exponentially. In fact, we have produced more data over the past decade than during the rest of human history. Second, the sources capable of capturing and generating information have are now more diverse. While computers are still important tools for knowledge development, a multitude of devices, such as mobile phones, tablets and robots, also play a role in capturing and generating information. And we know that new innovative devices are on the way, i.e. Google glasses. Third, the role of technology in communicating information has become as important as its role in storing data. When Knowledge Management theory first appeared, the focus was on technology's capacity to store and aggregate data. But as technology has evolved, we have turned our attention to its ability to communicate information. This is why TrainForTrade gives such importance to the communication aspect of technology for developing skills, knowledge and capacities; hence the importance of this Advisory Group and the relevance of this meeting's topic.

6. Ms. Anne Miroux described how Information and Communication Technology have played a fundamental role within the last decade in widening the reach and scope of capacity building efforts and will continuously gain importance in the upcoming years in all sectors, including education. Furthermore, along with promoting interactive and collaborative learning, the

evolution of information communication technology has also begun to facilitate the adaptation of training programmes in context to specific country needs. For developing countries, the use of ICTs has allowed them to better address the challenges they face to access, understand, and use information and research in the area of trade. She said that UNCTAD's TrainForTrade programme was continuously testing new ICT tools to improve its distance learning courses for capacity building efforts. In this sense, work has been done to convert part of the TrainForTrade courses into M-learning format.

7. Ms. Miroux recalled that the ninth session of the Advisory Group Meeting is expected to provide advice on developing skills, knowledge and capacities through innovative ICT technologies. Within this framework the idea is to examine the innovative electronic approaches being adopted by international organizations, training institutions, and research centres in order to build and share knowledge in the field of international trade and development. It is also important to assess the success of these approaches in addressing the needs and challenges in the field of E-learning for developing countries and countries in transition, and to identify best practices and how they could be further implemented, by UNCTAD in particular.

8. In his role as moderator, Mr. Mark Assaf, Chief of UNCTAD's Human Resource Development Section/TrainForTrade, outlined the plan of the meeting. He mentioned that a web-page had been created for the meeting through TrainForTrade's learning platform, and that all the documents and links from the meeting would be posted on the web-page, which is open to the public. He made reference to UNCTAD's 2013 Information Economy Report and invited the participants to consult the definition on the cloud economy and the four types of cloud services. A copy of the report was provided to each participant.

IV. Summary of discussions

A. Claude Lishou: Prospects for the use of E-learning, M-learning and cloud learning (Claude is also the UNICEF Chair on ICT)

9. Mr. Claude Lishou, University of Dakar, presented on his experience collaborating with TrainForTrade on capacity building and technical assistance projects. Through his experiences, he has seen how TrainForTrade has effectively integrated new ICT solutions to adapt its capacity building projects to the evolving learning environment.

10. Most recently, Mr. Lishou consulted on needs assessment missions for TrainForTrade's (TFT) E-commerce project in West Africa, funded by the United Nations Development Account. The project aims to accelerate progress in West African countries (Benin, Burkina Faso, Gambia, Ghana, Guinea, Mali, Senegal and Togo) in achieving the development goals agreed at international level, in particular MDG 8. The project provides E-learning and face-to-face training on key issues of E-commerce. During the missions, an analysis was conducted in each country to identify training sites, secure stakeholder buy-in and support ministries in the designation of a focal point for the project activities.

11. Mr. Lishou used his experiences working with TFT to put forth recommendations towards advancing TFT's E-learning strategy. TFT's E-learning strategy uses Moodle, an open source

learning management system (LMS). To add on to the Moodle application, Mr. Lishou suggested the following tools, inline with the increased need for flexibility brought on by the increase in the use of mobile phones: Android application packages or ePub for Apple products, the Ko-Su mobile learning platform, Google Course Builder and Massive Open Online Courses (MOOCs).

12. Mr. Lishou concluded by showcasing a demo mobile application of a TFT course that incorporates responsive design, which means the layout automatically reflows to remain usable on any device screen size. He also showed a demo of a TFT open online course built with Google Course Builder. He mentioned that although M-learning is a great opportunity towards advancing capacity building, it should complement, not replace, E-learning.

13. Mr. Lishou recommended that TrainForTrade conduct a systematic study to characterize the best deals on free application providers to identify the most cost-effective tools to incorporate in their E-learning approach. One challenge would be to convince UNCTAD and participants to open a Google account, given firewall restrictions and concerns about privacy, often a requirement for a wide variety of free applications provided by Google.

14. With regard to the storage capacity of Google Course Builder, Mr. Lishou specified that the platform takes advantage of existing Google applications. This means, for instance, that videos would be stored on Google's cloud via a YouTube channel.

15. ITC commented on the importance of considering the target population with respect to the courses being developed. Before deciding what type of learning tools to use, it is important to first understand who the beneficiaries are. The tools that may be effective for training internal staff may not be appropriate, for example, when delivering courses for developing countries.

16. Likewise, ICRC mentioned that apart from the technical challenges in the field, it is also important to take into consideration the socio-cultural environment and the learner's motivation when using E-learning.

B. Alessia Messuti: Mobile Learning at ITC-ILO

17. Mr. Tom Wambeke, Programme Officer, ITC-ILO, addressed the Advisory Group through a multimedia video, providing an overview of ITC-ILO's evolving M-learning strategy.

18. Over the years, ITC-ILO has found that if too much time is spent on research at the outset of a project, organizations tend to end up with a product that is no longer valid or desired. The key is to involve the beneficiaries from the outset.

19. Ms. Alessia Messuti further explained that ITC-ILO has adapted its training programme by using mobile tools to create engaging, shared and interactive learning experiences.

20. In particular, ITC-ILO developed a mobile learning toolkit for trainers to be integrated to face-to-face trainings on Youth Entrepreneurship in Uganda, Kenya and Tanzania. The toolkit includes 14 mobile methodologies, a set of mobile tools, and custom-made scenarios that can all add value to the traditional learning and training process, such as face-to-face.

21. ITC-ILO has also created an institutional mobile learning toolkit that illustrates how to add value to training and make learning accessible 'anytime' and 'anywhere' beyond the physical borders of a training room. One example presented was a mobile learning toolkit available on USB business cards, through which all the information and applications can be accessed offline. This card is provided to beneficiaries in countries where internet access is limited or unreliable. For ITC-ILO, M-learning is not limited to mobile phones, but all devices that are mobile and enhance the formal learning experience.

22. ITC-ILO has found that mobile tools are not the most effective means through which to deliver text-based content. This is because it is difficult to deliver substantive content on a small screen. Instead, they use mobile tools to make the training more effective, i.e. to gather feedback or provide additional support when the participants leave the classroom.

23. She reiterated that M-learning is not only about the latest technological developments, but also about effectively using the mobile devices most available to the audience (from the basic mobile phone to the smart phone). In this respect, ITC-ILO's strategy does not focus on providing participants with new technology, but on assisting them to effectively use the technology they already have.

24. Following the presentation, the ICRC commented on mobile phones and E-learning. While most mobile phones come with the potential to access the World Wide Web, it should be remembered that only basic handsets, many without Internet capability, dominate the African market. Smartphone penetration is estimated between 6 per cent and 15 per cent. The type of mobile device that our beneficiaries have access to should form the basis for the type of technologies we eventually incorporate in our E-learning strategy. For example, regular mobile phones cannot download and store information and can only use limited applications. This observation was reiterated by ITC, who also provided an example of a application that targets the general public and works with even the most basic cellular phone. The application is M-PESA, an SMS-based application used to transfer money between accounts in Kenya.

25. Ms. Messuti specified that ITC-ILO's toolkits can be used on smart phones, as well as SMS-based phones. Whether the beneficiaries have a smartphone or SMS-based device, they can use the tools and methodologies because all that is needed is credit. Certainly, it is not possible to deliver an entire course on an SMS-based device. These should be combined with a classroom setting, and could be used for feedback and follow-up.

C. Michel Benard: MOOCs and Google

26. Mr. Michel Benard presented Google's work on Massive Open Online Courses (MOOCs). MOOCs, a recent development in distance education, are online courses with open access via the web aimed at unlimited participation. In addition to traditional course materials, such as videos, readings and problem sets, MOOCs incorporate interactive user forums that help build a community for the students and professors.

27. Google's MOOCs project started with the observation that Google already had all the component technology (YouTube, App Engine, Groups, Apps, Google+ and Hangouts, etc.)

needed to create a platform for delivering a learning experience similar to other MOOCs being offered on Coursera and Udacity.

28. The first large-scale MOOC, on artificial intelligence, was created with Sebastien Thrun, a Google researcher, in his role as professor at Stanford University in January 2012. There were over 100,000 attendees. The completion rate was around 20 per cent. MOOCs are now used for teaching science, technology, humanities and many other fields, such as sports, vocational topics or general public interest topics.

29. Google created a MOOC on Power Searching in 2012 to train users to search better with Google. The first release had 175,000 attendees, from which 30 per cent completed the course. This encouraged them to go to the next step in 2012 and actually pursue a MOOC strategy with three goals. The first goal is to intensively use the MOOC framework for internal use. Google has more than 20,000 engineers that need to be trained on a continually basis on new hard and soft skills. MOOCs allow Google to scale up the training model they previously had. The second goal is to train Google users to use Google tools more effectively. Some course that have been developed are Mapping with Google, E-marketing 101, Google analytics and YouTube Academy. The third goal is to help universities, companies, NGOs and organizations of all kinds to use MOOCS for their internal or external needs.

30. Google's goal, Mr. Benard said, is to provide the capability for anyone to create a MOOC or OOC (Open Online Course). Google believes that an online environment can be used for a wide variety of education-related activities beyond just the standard university course and have implemented a feature set that supports this goal.

31. Google's first MOOC on Power Searching was built on Course Builder, the platform that was developed on Google technologies to present the course. Four versions of Course Builder have been released since then, adding features such as user-friendly content development, administrative support, dashboards on student performance and behaviour, new assessment types including peer review, accessibility, internationalization, etc. Many courses have already been hosted on Course Builder, with many more in the pipeline.

32. Course Builder supports a diversity of content and format and its users include not only colleges and universities, but also nonprofits and educational organizations. Course Builder hosts academic courses, such as Information Visualization and Game Theory, as well as short courses, including Mapping with Google, Digital Learning in K12, YouTube Creator Academy, and Giving with Purpose.

33. Course Builder is hosted on App Engine, providing additional capabilities that are essential for its users, in particular colleges and universities. It's possible to brand a MOOC anyway the user wants. The user also owns the relationship with the student, as well as any data that they collect, which they may use anyway they like. Given Course Builder is open source, it is possible to easily add customized features. Add to that App Engine's scalability, self-managed hosting and the extensible component architecture built into Course Builder, and you have a powerful, flexible platform that can support any number of students and any type of content. Course builder can be accessed by anyone.

34. As a next step, Google announced in September 2013 a new partnership with edX, the not-for-profit online learning initiative, to jointly develop the edX open source learning platform, Open edX, and expand the availability of the platform and its learning tools to individuals and institutions around the world. In collaboration with Google, edX will build and operate MOOC.org, a new site for non-xConsortium universities, institutions, businesses, governments and teachers to build and host high-quality online and blended courses for a global audience.

35. Google will work on the core platform development with leading experts from many edX partner institutions, including MIT, Harvard, UC Berkeley, Stanford, University of Western Australia, University of Queensland and Tsinghua University. In addition, edX and Google will collaborate on research into how students learn and how technology can transform learning and teaching on campus and beyond. MOOC.org will be hosted on the Google Cloud Platform, and Google intends to run courses on this new destination site.

36. Course Builder has 50 institutional users with about more than 100 courses. Some of them have a very large audience. A MOOC on entrepreneurship in Spain (University of Alicante and others) have already trained 40,000. Various institutions are experimenting at different scales. The courses on Course Builder have the capacity to handle up to 10,000,000 attendees (they have already had experience with 200,000 users).

37. Google is currently experimenting with different strategies to improve its courses, such as forums. Currently, you can separate the forums by topic. They have also experimented with social networks attached to MOOCs, where attendees can interact and complete projects together and submit them for peer review. Google has seen that there is more and more social aspects in MOOCs, where people can talk together and exchange.

38. With regard to certification, Google has not received much pressure to provide certificates for the MOOCs. Attendees, who tend to be young professionals, want good content. They also appreciate the social experience offered by MOOCs. They are not worried about building their resumes.

39. ICRC commented on the unreliability of internet connections in developing countries and wanted to know if MOOCs could be used offline. Mr. Bernard explained that MOOCs require an internet connection, but that when building the course, designers can choose to use content that is smaller and do not require a large bandwidth so that the material can be downloaded and saved. MOOCs can also be designed for all types of devices.

D. Stephen Downes: Developing skills, knowledge and capacities through innovation – E-learning, M-learning, and cloud-learning

40. Mr. Downes presented on his idea of a new model of learning that focuses on community models: the students themselves encouraged to produce content for learning as opposed to just having experts produce the content then disseminate to students.

41. In recent months, Mr. Downes said, open online courses have received much attention, with the focus being placed on the massive number of students they can support. What makes open

online courses significant, however, is not the number of students who can access them or the fact that they are online, but the free and open approach to learning that they use.

42. The development of open learning has created an environment in which students (and, indeed, anyone) can access and use education resources for little or no cost. As a consequence of this, an environment has also been created in which individuals can chart the course of their own learning and follow their own passions and interests, rather than merely take courses that will enable them to pay back a student debt in the future.

43. MOOCs, Mr. Downes said, are a form of Open Educational Resources (OER). They appeared with the question of sustainability. How could the balance between commercial models (characterized by upselling, extended services, advertising and marketing of the product, as well as labour costs) and non-commercial models intended for public knowledge sharing be achieved?

44. He mentioned two ways in which open courses could be implemented: the Publisher model where content is produced by experts and then disseminated freely to the public; and the Community model where students produce the content as they learn. The significance and preference of use is determined by the objective; learning in order to know vs. Learning in order to do.

45. Informal learning is driven by the desire of a user to accomplish a task external to course. Formal learning on the other hand is driven by need to disseminate information. This creates different forms of support. Informal learning means support comes from community themselves. Formal learning means support from the professor. The creation in MOOCs has seen bottlenecks when it comes to support. Is it student-instructor support, or is support distributed between a community of learners?

46. Mr. Downes presented four types of support system for learning: software resources and repositories; the cloud infrastructure (storage as a service); the Personal Learning Record (PLR) where students manage synchronization of their own learning progress; and Personal Learning Assistance. Whatever the support students preferred, Mr. Downes said, it was important to identify ways in which pupils can become competent based on what level they are before the learning starts.

47. Mr. Downes mentioned three options to the learning approach: The Udacity option which focuses on corporate learning; The Coursera option which focuses on elite learning communities; and The Trail Model which uses a community of learners to create content and resources for online courses. Learners exchange information to help each other learn.

48. Over the years, Mr. Downes and his colleagues have attempted to foster a model of learning in which the ethics of economics of abundance define the structure of learning and the nature of learning resources. They have developed a course structure based not on the transmission of knowledge from figures of authority, but on the development

49. The model of learning they have attempted to foster over the years is one in which the ethics and economics of abundance define the structure of learning and the nature of learning

resources. We have developed a course structure based, not on the transmission of knowledge from figures of authority, but on the development of webs of learning, characterized by the sharing of resources among learners themselves.

50. In such an environment, many of the problems facing traditional models of online learning are dissolved. The online course becomes less like a book to be read cover-to-cover, leading toward a fixed and focused end, but a magazine of newspapers to be sampled, where the reading of one article may be as significant as the reading of all of them. Motivation is generated by students themselves, following their own passion, and does not need to be created by tutors leading them through some arbitrary path. The problems of scale and interaction are solved through the development of peer communities, and need not be filled by catching the attention of a single professor.

51. This new model is based on some old ideas, the idea of learning by immersion in authentic practice, following the model and demonstration of those already masters in the field, sharpened by continued practice and reflection at the end of the day.

52. lSi wanted to know Mr. Downes' perspective on MOOCs' role as content aggregators. What Coursera and Udacity have done in his view is in some ways comparable to journal aggregators like Reed and Elsevier, who collect content from researchers then sell it back to the universities where the research is produced. The differences between Udacity and Coursera are hard to define, Mr. Downes said. There are lots of similarities. They are not, however, selling content back to the institutions. They sell certificates and are exploring other viable services (including the sale of learner data to recruiters) using the institutions' own content. For Downes, organizations do not need an affiliation with either a MOOC platform or a formal learning institution to organize their own online community learning; content made available for free with platforms that just require connecting to it and adding the content or just sending content to pupils. Open online content is important to support community-based learning but without the compulsory subscriptions which create barriers to disseminating knowledge.

53. Mr. Downes mentioned that the idea of MOOCs is not to master learning material, rather for learners to get together and develop their own ideas around the course content.

54. Mr. Downes also clarified the concept of a PLR. It is similar to a health record but personal to the learner themselves for their use, held by the pupil as opposed to a record in a learning institution. For example the Driver's license; it's personal, there is no need to show it to people unless you want them to see it. The PLR references performance evidence. It's an e-portfolio on online learning, learning with institutions etc. The PLR extends beyond limits of a learning platform. Tradition PLRs are limited to the Learning Management System (LMS) used for online learning. This restrictive access creates barriers to accessing the PLR without having to log onto a learning platform.

55. UNICEF mentioned that interestingly, not many people who signed up for MOOCs were concerned with getting certificates but more with learning the material. The UN however focuses on formal learning with formal certification. The idea is that completion rate is low

for courses that do not offer certification. Drop-ins or tourists without the intent to see it to the finish means the provision of a certificate still provided incentives to students.

56. Mr. Downes responded by saying that MOOCs and online courses are the same save for the open and free access for MOOCs. The interest for certificates is not in the majority. In Western Europe and North America where employment is sought, 15 per cent of people are actually interested in certification. MOOCs provide a better alternative than tradition E-learning but not a massive difference as the need for certification, credentials and subscriptions still provided bottlenecks as far as open learning is concerned. Instead of evaluating results based on credentials we should move towards evaluation based on student's online portfolio. Google, for example has hired people based on open source apps they created as opposed to their record of formal learning from institutions. We need more evidence of people's competence rather than scores from University.

57. Mr. Downes closing statement was that the future of education is in communities creating their own learning content as opposed to having institutions create/provide content for them.

E. Nivi Mukherjee: E-learning in Africa – Necessity is the Mother of Innovation

58. Ms. Mukherjee presented on the challenges for E-learning in Africa based on her experience setting up eLimu, an educational programme that loads primary school content onto low cost tablets, adding creative elements like songs, video, interactive games, quizzes, music etc. to enhancing learning in primary schools in Kenya.

59. Kenya introduced free primary school education in 2003. Its current president Uhuru Kenyatta has promised that every child in primary school will get free laptops beginning 2014.

60. Ms Mukherjee reflected on the challenges for E-learning in Africa: the lack of infrastructure, particularly in the rural areas (classroom wall structures, furniture, roads, electricity); the lack of hardware (computers/laptops, cell phones, smart phones etc.); content that is suited to the type of hardware available. eLimu's content for instance is interactive and uses animations and games for learning. Because the internet in rural areas is intermittent in Kenya, eLimu has had to pre-load content so it is accessible offline and then reloaded every two weeks or so based on feedback from the teachers and students.

61. When eLimu's first ran a pilot, the preloaded tablets were given to both teachers and students at the same time, with introductory training provided. Naturally the students caught on much quicker than the teachers and were now showing the teachers how to use the tablets, which saw teachers resisting the product and no longer allowing that students use of them in class. eLimu changed its approach and started providing training to teachers first before giving access to students.

62. Basic digital literacy was also required as well as integration of ICTs in schools in Kenya. There was also the challenge of retaining trained teachers particularly in rural areas, who after have gained skills from the eLimu capacity-building found opportunities in NGOs working within their communities. Capacity-building is good but how to we retain those trained for the purpose for which they were trained?

63. Ms. Mukherjee reflected on the need to move towards flipped learning where students follow courses through multimedia independently at home, and what used to be homework takes place in class with teachers offering more personalised support. She also mentioned the importance of localised and conceptualised content; instead of using number of pizzas in a math problem for children in Kenya, eLimu content uses mafuta keki, which is much more familiar amongst Kenyan children than pizza.

64. She said that learning results must focus less of achieving high-test scores and more on enhancing ICT literacy and creative thinking. A traditional learning model where "fair selection" is based on all students having to take the same test is outdated and does not enhance creative thinking.

65. eLimu's approach, which Ms. Mukherjee termed Research 2.0, uses tools like video cameras, smart phones, tablets etc. for pupils to use to interpret the concepts that they are taught in the classroom; this approach is not just learning, it's interactive shared learning.

66. KSTCD wanted to know if there were any differences observed regarding results when content was localized vs. generalized. Ms. Mukherjee said that within 4 months children had improved test results after having used interactive tools for learning. Innovation is key to developing learning content but it must be contextualized to local needs. eLimu is based on Kenya's Curriculum, which dates back to the 1960s. eLimu uses material from the current curriculum textbooks with the added digital media developed based on the teacher's experience to disseminate information tailored towards the children involved. Statistics are then used to further develop content. If a particular video does not work, a different one is uploaded and tested.

67. UNAIDS wanted to know if eLimu devices communicated back to a database collecting information that can later be analyzed used to improve the learning content. Ms. Mukherjee said that data on usage, number of hours logged, most popular content, least popular content etc. is logged remotely where internet connectivity was reliable. Otherwise content is preloaded so that it is available offline and then data collected afterwards at intervals.

68. CIRC wanted to know how eLimu organized needed pre-training. For the kids, pre training was not needed. eLimu runs five day pre-training primarily for teachers with focus on acceptance as well as how to integrate the use of tablets into traditional lessons. Ms. Mukherjee used an example of how an English lesson includes the students having to take pictures to describe new words that they just learnt. The question would be how to translate Research 2.0 for adult education. Ms. Mukherjee said that the focus is more on content rather than pupils. How do the pupils want the content to be represented so they understand it better, irrespective of whether they are children or adults?

F. Open discussion

69. WHO/IARC mentioned that Moodle has been used by several WHO technical teams since 2006, mainly to develop courses for external target audiences (i.e. International Health Regulations). WHO is currently implementing Cornerstone for staff learning.

70. ITC mentioned that it has had a Moodle platform since 2008. The pilot phase ran from 2008 to 2009 and the platform was adopted in 2010. It has two separate Moodle platforms for different functions: one for human resources hiring processes and the other for staff E-learning.

71. ICRC deployed an E-learning platform in 2009 and its target group is staff in the field. Its main challenge with having introduced E-learning courses is to change the mind-set of staff while integrating E-learning to traditional learning methods.

72. ITC uses a Moodle platform for ICTs E -learning program. Currently it is rolling out a curriculum for trade advisers and develops new content for other target groups.

73. Universidade Aberta of Portugal mentioned that it uses Moodle to provide distance E-learning courses to 10,000 students worldwide. Hosting of its Moodle platform is outsourced to an external IT company.

74. WTO uses its E-learning platform to support progressive learning targeted at participants from UN member countries. They are looking at software solutions, including outsourcing.

75. The ILO has purchased a Success Factors (SAP company) learning management system (LMS), paid for with regular budget funds. The LMS is mainly used for the training of the ILO staff. Upon request, access is also granted to interns and other colleagues. The LMS has been launched in ILO Headquarters in Geneva and in the field offices in 2013. For course registration, the ILO previously used email, paper forms, Excel files and Access database. In order to have one platform for both registration and reporting, the ILO has implemented the LMS. Workshops and E-learning available through the LMS have been developed by different departments of the ILO, in collaboration with other organizations (e.g. ITC-ILO) and external contractors.

76. UNAIDS uses Cornerstone (proprietary). The platform is currently in its pilot phase and the plan is to roll it out in 2014. Amongst many benefits that a cloud-based solution offers, Cornerstone was a provider of choice given its ability to automate and cost-effectively address key performance management processes, as well as integrate a learning management platform. The contract is for three years and is paid for with regular budget funds. The data is stored on a cloud managed by Cornerstone in the UK.

77. TFT is looking at using the cloud for data storage, for reasons of sustainability. Maintaining physical structure able to store all the programme's information and host hundreds of users online at the same time is expensive.

78. ICRC training strategy now incorporates blended learning. They are looking for an LMS that can manage E-learning and M-learning consistently.

79. WFP uses Moodle and are satisfied with the platform. They have recently used it to administer quizzes as well as pre- and post-test questions. They have found that the platform is an effective means by which to gather feedback and information. The same is true for chat sessions. However, they have not been able to use the platform to analyze the data and thus

continue to do it manually, which is time consuming. They are searching for programmes that could facilitate this task.

80. TFT explained that the chat sessions can be more efficient when they are administered in groups. TFT does this by training technical tutors who manage the session locally. This means that the participants come together and discuss their individual questions with the technical tutor, and only post those questions that cannot be answered in the group. This limits the number of questions posted on the chat. Further, TFT uses a coding system to identify each group and the order of questions posted.

81. Regarding multimedia material, TFT decided to move from flash to html 5 to cater to the requests for more M-learning products.

82. ITC uses whiteboard videos, in which a sketch artist is filmed illustrating a concept or scenario. Afterwards, a voice over of the script is recorded and added. They have used the Articulate software and mentioned rsa.org as a good example. Others mentioned PowToon and GoAnimate which are good low-budget solution. eLimu added that the advantage of these animations is the ability to quickly change the language. Screencaster.com can be used to produce effective screen recordings. WTO has found that low-budget animation videos can be just as effective as high-production videos. Finally, ILO has recorded webinars with WebEx.

83. LSi shared their experience organizing low-cost open online learning experiences to complement face-to-face conferences. Preceding a three-day international conference that brought together 155 delegates, a four-week open learning course enrolled 775 participants (90 per cent of whom were not attending the face-to-face event), who reported enjoying the experience, working consistently on learning activities, and achieving positive learning outcomes. This community-based open learning had minimal technology requirements (using only a blog and social media) but had specific, measurable learning objectives aligned to the conference programme, strong branding identity, and a well-defined process combining asynchronous (anytime, anywhere) and synchronous (live events) learning activities. This was found to be more effective than live streaming the event itself. Another project has enrolled 591 participants with experience in emergency operations, to develop case studies using a peer review-based learning environment.

84. TFT spoke of their use of multimedia material as a means to reduce travel costs. In a face-to-face setting, one can show the participants a video of an expert on a particular subject. The expert can then follow up through a live video (or phone) conference to answer questions and expound upon the topic.

85. WFP's approach has three phases. First, they organize an E-learning course, for which a 75 per cent success rate must be attained. Second, the run a face-to-face workshop, following which they ask each participant to enhance two skills learnt during the course and turn in a progress report. The skills must come from Terms of Reference of their job. Third, they organize training of trainers for replication workshops. This particular phase allows WFP to transfer ownership to the beneficiaries, which is important for sustainability.

86. TFT spoke of donors' requests for capacity building activities that reach more beneficiaries at a lower cost. The question was asked if MOOCs could help achieve this objective.

87. IARC/WHO said that while MOOCs might help them in the future to reach secondary target audiences (students, training institutions and programmes, using the material in public health curricula), they still want to run high quality and tailored courses for their primary target audiences - cancer researchers (studying the causes and risk factors) and public health professionals (surveillance/prevention systems and programmes) throughout the world (specific focus on low- and middle-income countries). Over the years IARC has mainly run face-to-face courses. They are now developing two types of models: (1) blended learning (E-learning being used to prepare the face-to-face session); (2) 100 per cent E-learning with E-tutors.

88. WFP said that the focus should be less on the cost and more on the impact of the training. The challenge is to move beyond citing the number of trained persons as the main results. If one can show concrete impact of the training, the cost will be less of an issue.

89. There was a request to build synergies between the different Geneva-based learning networks, such as the Geneva Learning Network, the UN Learning Community and the UN Yammer Network. The European MOOC Stakeholder Summit (10-12 February 2014) was mentioned as an opportunity for international organizations to engage around their learning needs with higher education and the corporate sector.

90. All participants agreed that blended learning is an effective strategy in the UN context. The prospect of a face-to-face workshop can motivate the participants to do better on the online phase of the course. Moreover, on-line training can introduce the subject to ensure that when the participants attend follow-up face-to-face workshops, they already have a basic understanding of the content.

IV Conclusions

91. According to the survey completed at the end of the meeting, 87 per cent of the participants agreed that the subject was clear, 100 per cent that it was relevant to their jobs, 87 per cent that the discussions and case studies were useful and practical, 100 per cent that the key note speakers' presentations were interesting and provided clarity, and 100 per cent that the meeting met the objectives. Moreover, the participants said the meeting was well organized and they valued the information shared between each other. Requests were made to include even more practical examples in future meetings, e.g. demonstrations of the organizations' learning platforms and E-learning tools.

92. Participants proposed that the debate on MOOCs and M-learning be pursued even further for the next Advisory Group meeting. It was suggested that small group discussions be organized on specific elements of technical and content-related challenges to using MOOCs and M-learning in the UN framework. Suggestions were also made to reinforce the existing Geneva-based learning networks, such as the Geneva Learning Network, and to have synergies.

V Closing of the meeting

93. Mr. Mark Assaf thanked the experts for their important contributions to E-learning best practises and field experience. He also expressed his gratitude to the participants for the valuable suggestions made during the meeting. He explained that their comments and suggestions would be taken into consideration in the formulation of the recommendations. These recommendations would be included in a draft report that would be forwarded to the participants for comments and validation. The final report would be submitted to the Secretary-General of UNCTAD.

V. ANNEX 1: MEETING OUTLINE

	Tuesday, 10 December 2013 Place : Centre International de Conference de Genève (Switzerland)
9h30-10h00	• Welcome address: Ms Anne Miroux, Director, Division on Technology and Logistics (DTL) • "Knowledge Development and ICT": Ms. Geneviève Féraud, Head, Knowledge Sharing Training and Capacity Development Branch, DTL • Outline of the meeting. Moderators: Mr. Mark Assaf, Officer-in-Charge, Human Resources Development Section / TrainForTrade Mr. Dominique Chantrel, Distance Learning Expert, Human Resources Development Section / TrainForTrade
10h00- 10h45	**LMS & Technological solutions to target developing countries** ▪ LMS (Open source & software solutions) ▪ Facilities in the field ▪ Human resources needed and trained to oversee the delivery Speakers: Claude Lishou, Alessia Messuti **Discussion**
10h45- 11h00	*Coffee break*
11h00- 12h30	**M-learning, cloud-learning, web 2.0, web 3.0** • M-learning where, how and for what? • New or further development? • Hybrid approach Speakers: Nivi Mukherjee, Michel Bénard (11h30), Stephen Downes (12h00) **Discussion**
12h30- 14h00	*Lunch break*
14h00-	**Discussion**

16h00	**Summary of discussions and recommendations** **Closing of the meeting**

Speakers (confirmed):

- ✓ Ms. Alessia Messuti / Mr Tom Wambeke (ITC/ILO) (Turin, Italia)
- ✓ Mr. Claude Lishou, Professor, Dakar University (Dakar, Senegal)
- ✓ Ms. Nivi Mukherjee, eLimu's founder (Nairobi, Kenya)
- ✓ Mr. Michel Bénard (Google, Suisse)
- ✓ Mr. Stephen Downes from National Research Council of Canada (Canada)

VI. ANNEX 2: SYNTHESE OF OPINION QUESTIONNAIRES

For each aspect of the meeting, as listed below, please show your opinion as follows:
Put a single cross in the box which corresponds most closely to your opinion;

	Aspects of meeting	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
1.	The subject of this meeting was clear		1	1	8	5
2.	This meeting was relevant to my job				6	9
3.	The discussions and the cases studies were useful and practical		1	1	7	6
4.	The speakers' presentations were interesting and provided clarity				6	9
5.	This meeting has met its objectives				8	7

Other opinions:

- Well-paced. Good room for discussion. One suggestion could be to see more practical examples, e.g. people's Moodle pages. Good outcome.
- Great to meet others face-to-face and discuss different approaches to E-learning.
- Considering most participants were keener to learn, and did not have as much expertise as the organizers and keynote speakers, I am not sure you have been able to achieve the desired objectives. Overall, a great meeting. Very enriching. Wide range diversity of speakers is much appreciated.
- Very good initiative. Good focus on how the learning function (and educational technology) can help organizations achieve their mission.
- As always, this meeting has been helpful to share, discuss and learn.

6. What did you like <u>most</u> in this meeting, and why?

- (2) Mr. Downes' presentation. It was inspiring and informative. Mr. Downes' presentation was excellent, as was the opportunity to meet and share experiences.
- (2) Cloud learning
- The diversity of approaches and experiences. The good idea to have a broad approach to the topic.
- The variety of presenters. All the resources shared.
- It sparked interest in certain topics I was not familiar with. I would like to know if anyone sets up a MOOC.
- The eLimu presentation and see the use of downloadable USB flashdrives.
- Everything. The presentations by Mr. Downes and eLimu. The comments by the participants and the sharing of experiences.
- MOOCs and the examples covered by different participants, resulting from their professional experiences.
- MOOCs

- Demo Course Builder by Google.
- M-learning
- The practical exchange of experiences, especially the different uses of technology for E-learning
- The sharing of experiences and the diversity of the audience.
- The discussions between all the participants
- The sharing of ideas by different modes of implementation.
- Interaction and the conciseness of the presentations
- The vision of UNCTAD – building on knowledge
- All subjects were very clear.

7. What did you like <u>least</u> in this meeting, and why?

- Mr. Downes' presentation, as it was very theoretical. I would suggest to link it more to how we can use this in the UN system. This is however a new subject for our organization and perhaps it was very relevant for others.
- Not having a second projector for Mr. Downes so that we could see him during his presentation.
- MOOCs – for the moment the least important trend to follow
- The discussion could be more structured on specific topics
- The presentation by Google – not particularly relevant to my specific field.
- The presentations were a bit rushed.

8. How could this meeting be improved?

- Maybe we could phase more clearly the goals of this meeting…and (we will see) what takeaways people/participants will leave with, actually.
- Maybe with a pre-session online, where participants could present themselves and share some opinions and thoughts about the subjects to discuss. The day of the meeting could then serve to resume and discuss some issues for which it seemed there was no agreement.
- I would appreciate a broader focus, linking learning and knowledge management. More demos of innovative tools.
- Invite learning service operators.
- Facilitate small groups exchanges around different subjects
- Share the list of contact details to follow up after the meeting.
- Share the different existing networks between practitioners.
- This feedback could be done over SurveyMonkey or using Google forms.
- Conversation with speakers beforehand about the participants' backgrounds.