

Connections



Learning for Development



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OUR YOUNG COMMONWEALTH

This year's Commonwealth Day theme is "A Young Commonwealth". With 60 per cent of the Commonwealth's population under the age of 30, truly, it is a young Commonwealth. Two themes come to mind when we think of today's young people: technology and learning – two keys that open many other doors.

The world has changed; technology and knowledge are multiplying at a rapid pace. The number of mobile-cellular subscriptions worldwide is approaching the number of people on earth – almost seven billion. Studies estimate that mobile-cellular penetration has reached 90 per cent in developing countries. Internet usage has also increased. 40 per cent of the world's population is connecting; two-thirds of them are from the developing world.

Technology is a powerful tool for increasing access to quality education. COL is working hard to harness appropriate technologies to address the learning needs of Commonwealth youth.

First, through technological innovations, people from around the world are gaining access to quality information and learning opportunities. COL's Virtual University for Small States of the Commonwealth (VUSSC) and its transnational qualifications framework (TQF), allows students from different countries to have the same quality of education and credentials. In other words, a Masters student from St. Lucia will have the same educational standards and qualifications as a Masters student in Malta.

Second, the low cost and high ownership of mobile phones, coupled with technological innovations, has provided COL with an opportunity to engage many young people, specifically in rural areas. COL's

Lifelong Learning for Farmers programme has helped, Valarmathy, a primary school dropout from India, to learn the intricacies of financial management and goat husbandry using her basic mobile phone. Today she is a business correspondent for a major commercial bank.

Third, COL's Aptus, or the Classroom Without Walls, is a technological innovation that is reaching the unreached. It uses solar power and requires no connectivity; yet, it provides teachers and students with access to good quality digital materials such as Wikipedia for Schools and a whole library of free books. This low-cost device has provided valuable learning opportunities for young people in rural areas and areas without reliable internet access.

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PREPARATIONS UNDER WAY FOR 19TH CCEM

The 19th Conference of Commonwealth Education Ministers (CCEM) will be held in The Bahamas from 22–26 June 2015. The CCEM brings together ministers, officials, teachers, youth representatives, Commonwealth organisations and stakeholders. This year's theme is "Quality Education for Equitable Development: Performance, Paths and Productivity". The Millennium

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CHOGM
Malta 2015

The Commonwealth Heads of Government Meeting (CHOGM) will be held in Malta from 27–29 November 2015. CHOGM is the Commonwealth’s highest consultative and policy-making body and is held every two years. COL will actively participate in the CHOGM and the side forums.

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Development Goals and Education For All Goals expire in 2015. The 19th CCEM provides participants with an important opportunity to advance the Post-2015 Global Education Agenda. During the CCEM, COL will present its Strategic Plan 2015–2021 to education ministers, deliver presentations on COL’s work, facilitate a panel discussion on the use of ICT innovation in education and host a ministerial discussion on the future of the Virtual University for Small States of the Commonwealth. COL will also hold its Board of Governors Meeting prior to the CCEM.

BRUNEI SCHOLARSHIPS FOR COMMONWEALTH YOUTH

COL is working in partnership with the Brunei Darussalam Government to deliver five master’s degree scholarships for individuals from Commonwealth countries, preferably to individuals working in higher education institutions or departments of higher education. The aim of the awards is to give applicants the opportunity to study at the Universiti Brunei Darussalam (UBD), the Universiti Islam Sultan Sharif Ali (UNISSA), or the Institut Teknologi Brunei (ITB).

OUM TO HOST PCF8



COL’s Eighth Pan-Commonwealth Forum (PCF8) will be held in Malaysia at the Kuala Lumpur Convention Centre from 27 November to 1 December 2016. The announcement was made in Malaysia by the President/Vice-Chancellor, Professor Emeritus Tan Sri Anwar Ali of The Open University of Malaysia (above, left) and the President and CEO of COL, Professor Asha Kanwar (above, right).

COL STRATEGIC PLAN 2015–2021

Based on extensive consultations from around the Commonwealth, COL has developed a draft strategic plan for the next six years. By moving to a six-year cycle instead of three-years, COL is confirming its commitment to delivering outcomes and impact rather than outputs alone.

COL has transitioned its theme from “learning for development” to “learning for sustainable development” to align itself with the post-2015 Sustainable Development Goals. The theme reflects COL’s commitment to strengthening human capital

through quality learning opportunities that lead to livelihoods and empowerment. COL will focus on education and skills development and maintain gender as a cross-cutting theme. COL will draw on its expertise and experience in open, distance and technology-enhanced learning to increase access, reduce costs and enhance the quality of learning for all.

The draft strategy will be ratified by COL’s Board of Governors and endorsed by Commonwealth education ministers in June 2015.

OUR YOUNG COMMONWEALTH

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To supplement all this, local content can be generated and added quite easily. As Dennis Pack from Kiribati writes, ‘I was very impressed with the speed at which the resources loaded...if we add our own content, I can visualise the Aptus featuring as the main technology on many of our island primary and secondary schools’.

Fourth, COL has employed appropriate technologies to help youth develop technical and vocational skills. One partnership in Kenya led to the creation of a construction and building course that enrolled 53 young people, five of which were girls. Eunice Mangua was one of these young women. She is the first born in a family of seven and enrolled in the course because of her aging father, an unskilled worker in the building

industry. As a result of taking the course, Eunice gained valuable work with construction firms and was able to pay for her college fee.

These examples demonstrate the breadth of opportunity that the use of appropriate technology has created for young learners. While today’s global market is more competitive, technology has helped level the playing field and provided new opportunities to learn. More than ever, youth in the Commonwealth will need to continue to learn, unlearn and re-learn many different things during the course of their lives. They will need to be lifelong learners if they are to access livelihood opportunities for themselves and contribute to the sustainable development of their societies.

SCALING UP ENGLISH LANGUAGE TEACHER TRAINING IN KENYA

COL is helping train 500 teachers in Kenya through its Open Resources for English Language Teaching (ORELT) materials. COL started by training 50 master trainers, each of whom is responsible for training at least 10 other teachers in their local community. Using this multiplier effect allows COL to increase its impact.

Richard Ituriu is one of the master trainers who benefited from COL's intervention. He lives in the rural community of Meru and believes that learning English is essential to the future of the children he teaches. English is the language of commerce and instruction, so "poor English will mean poor performance in other subjects as well". Since implementing ORELT materials he has seen his students' grades improve, something he



attributes to the materials. Richard is keen to see ORELT taught across Kenya and has already trained eight teachers, including two from his own school.

Richard isn't the only one who wants to see ORELT expanded in Kenya. The Kenya Institute of Curriculum Development has approved the use of ORELT as supplementary English educational materials in secondary schools.

COL's external evaluators also commented on the importance of COL's work, noting, "All the teachers visited reported that the modules are very helpful; they make the teaching and learning of English more exciting, easier and lively ... [and] give them a rare opportunity to learn English in a more practical way."

THE BIG PICTURE: FROM LEARNING TO LIVELIHOODS

At the recent Commonwealth Open Schooling Association (COMOSA) conference in Bangladesh, participants were encouraged to implement a development framework that takes activities a step further, into the realm of sustainable development. This framework seeks to help organisations go beyond the outputs so that participants can realise the benefits of a given activity – such as achieving greater productivity, obtaining a new job or filling a need in the local community. The "Big Picture" framework is aptly named, as it seeks to connect the dots that lead to sustainable development.

COL is testing the framework at a Catholic school in the remote village of Matelot on the north coast of Trinidad. Many young people in Trinidad drop out of the formal school system early, leaving them less prepared for the workforce, and Matelot is no exception. COL's Education Specialist for Open Schooling, Frances Ferreira, met with His Grace Archbishop Joseph Harris to discuss a programme that will teach the school's students job-ready skills. The school has high hopes for this new programme: "[The] provision of

an open school has the potential for reversing the migration trend, as villagers both young and mature are able to ... complete secondary school ... and, through further education and training, to build careers and access jobs within the North Coast community, thus contributing to its development," said Sharon Mangroo, the Chair of the Catholic Education Board of Management.



Youth unemployment is high in Trinidad, but some sectors have trouble finding suitable workers. COL has worked with the local community to identify three areas of labour shortage. The Matelot school's students will be trained in agricultural processing, small boat engine repair and net mending. Since the community has asked that students be trained in these areas, the chance of them gaining employment is very high – good news for both the students and the community.

This Big Picture programme was approved by the Catholic Education Board of Management in February 2015 and is set to start this spring. If the Big Picture model is successful, COL will look for more ways to replicate it in other countries and connect the dots that lead from learning to livelihoods.



CAN A GARDENER WITHOUT INTERNET ACCESS TAKE A MOOC?

The massive open online course (MOOC) is an emerging medium for delivering learning content online to an unlimited number of participants. MOOCs have become increasingly popular in recent years and are attracting the attention and expertise of world-renowned educators. Typically, MOOCs are associated with higher education and professional training. However, COL and the Indian Institute of Technology, Kanpur (IITK) have revolutionised this technology by offering a MOOC in a non-traditional manner, covering semi-literate learners.



Mooc on Horticulture

COL asked, “Can MOOCs be made relevant to smallholder farmers who lack access to computers and connectivity?” COL and IITK are exploring this frontier through a horticulture MOOC designed for *malis*, *mali* being the Hindi word for a semi-skilled gardener or farmer. Enhancing their knowledge with good practices derived from science-based horticulture can help them increase their income and local food security.

Since Internet connectivity and smartphones are rare among small farmers, the horticulture MOOC was designed in audio-only format for delivery on basic mobile phones. To minimise

costs in terms of time and money, the audio-only course platform leaves a missed call so that the learners can call the toll-free number at their convenience and listen to the lesson, an audio clip of about 40 seconds. Tests are administered in a similar way, with learners pressing pre-defined keys on the number pad to select the answers. This easy-to-use system is a major innovation. In South Asia, mobile handsets are not designed to display the non-Roman characters of many widely spoken languages. COL and IITK resolved this problem through the audio-only system they developed.

Out of the 1,055 participants who signed up for the horticulture MOOC, 675 remained active throughout, and 296 have received completion certificates from COL and IITK; a few of the recipients have had no exposure to schools. MOOCs, such as this one, are expected to increase the participants’ skills and productivity, leading to greater development in their communities.

This is the first time that a MOOC has been blended successfully with a non-Internet technology on such a large scale. COL and IITK’s work paves the way for other MOOCs to be offered in non-traditional fields and to rural communities.

REACHING THE UNREACHED IN PNG

The technical and vocational education and training (TVET) wing of the Department of Education in Papua New Guinea (PNG) has committed to developing flexible and open learning (FOL) in TVET, with the objective of “reaching the unreachable”. A new central unit has been established, which recently created posts for FOL officers in delivery institutions. COL has supported this unit and the six pilot institutions in addressing the management and systemic issues of introducing FOL and in developing learning materials. A senior management planning session was facilitated in September 2014 and teacher training the following month. The first FOL courses are expected to be launched this year.



APTUS DEPLOYED IN VANUATU

The Aptus “Classroom Without Walls” is a mini PC that hosts a large number of open educational resources (OER). In combination with a wireless router, it allows materials to be accessed by multiple learners using tablets, laptops or mobile phones and devices – even in places where no Internet service is available. Aptus is an off-grid, offline virtual classroom.



With the cost of generic tablets decreasing significantly, many countries have launched tablet distribution projects to equip learners with access to web-based learning materials. This is exactly what the Ministry of Education in Vanuatu has undertaken. However, as in many other countries, Internet service is limited or absent, which restricts learners from using web-based materials. Aptus allows devices such as tablets to access learning materials offline.

COL is providing Vanuatu with twenty Aptus devices to support the roll-out of its tablet project. Mr George Maeltoka, senior official at the ministry and a COL Focal Point, believes that the tablet project is well positioned to take advantage of Aptus for the delivery of important OER content. According to Mr Maeltoka, Aptus will also help the tablet project overcome the barrier of limited Internet connectivity. Even where Internet access is feasible, education administrators prefer Aptus because learners cannot be distracted by online diversions.

HISTORIC agMOOCs CONSORTIUM LAUNCHED IN INDIA

COL promotes an understanding of the MOOC as a next-generation learning technology that can be re-engineered and modified for different audiences. Recently, COL took a leap forward in making MOOCs more accessible by bringing together some of the world's top IT minds and institutions and one of the Commonwealth's largest government agencies to form the agMOOC Consortium.

The members of the multi-institutional consortium are the Indian Institute of Technology, Kanpur (IITK); the Indian Institute of Management, Calcutta (IIMC); the University of Agricultural Sciences, Raichur (UASR); and COL. This consortium is supported by the National Programme on Technology Enhanced Learning (NPTEL), a major OER publisher under India's Ministry of Human Resource Development.

AgMOOCs focus on capacity building and training for students and professionals in areas that engage with agricultural education



Front row: left to right, Runa Sarkar (IIMC), K Mangalasunder (NPTEL), TV Prabhakar (IITK), Indranil Manna (Director, IITK), V Balaji (COL), N Yaduraju (advisor), A Prabhuraj (UASR)

and new technologies. The agMOOC Consortium was launched in a workshop held at IITK during the second week of February 2015. It is hoped that 20 MOOCs will be offered in 30 months, reaching about 100,000 learners. The courses will be open and in English and Hindi. The first course, on the basics of ICT in agriculture, commenced in March 2015. Information and registration are available at www.agmoocs.in.

The agMOOC Consortium marks the first time that so many high-level institutions, along with organisations and a government, have worked together to offer a MOOC in agriculture for the purpose of development. The consortium is a direct outcome of COL's efforts with IITK in offering three MOOCs during 2013–2014, to 6,000 learners. COL started its MOOC efforts in June 2013, and bringing the prestigious consortium together within just 18 months is a major achievement. It has the potential to lead the way for other collaborations outside of the traditional MOOC focus.

BUILDING CAPACITY IN THE CARIBBEAN

COL has been working with the Metal Industry Company (MIC) since 2014 to help them develop their programmes through the use of open educational resources. MIC offers training in areas such as air conditioning, automotive repair, electrical installation, welding and plumbing. Learners wishing to enrol in such courses require three Caribbean Examination Council subjects, of which two should be math and English. However, many boys in Tobago – as in much of the Caribbean – drop out of school early and do not have the courses required to enrol in MIC's technical and vocational programmes. The result for MIC has been low enrolment and stunted growth.

COL's Education Specialist for Open Schooling, Frances Ferreira, visited MIC and suggested that they start an open schooling centre to provide the courses that potential

students lack. MIC has begun work to launch the new school this year. In addition to increasing enrolment, MIC believes that the open schooling centre will “go a long way in enhancing the sustainability of the institution and set MIC apart as an institution of choice”.

Not only is open schooling good for MIC, but it also will allow potential students to take only the courses they need and will guarantee them a place in the technical and vocational programme. At a time when youth unemployment is high, many young people are excited about the opportunity to gain the job-ready skills MIC offers.



UGANDAN TEACHERS INTEGRATE ICT INTO THE CLASSROOM

The Ugandan Ministry of Education and Sports is helping teachers integrate information and communication technology (ICT) into the classroom through COL's Commonwealth Certificate for Teacher ICT Integration (CCTI). Currently, 68 teachers from Uganda are pursuing the programme. At the end of the first course, one of the participants said, “I have found the course pertinent to professional growth in so many ways. First of all, it has opened my eyes to many resources. I have developed a professional learning network, to mention but a few.”

The CCTI is designed to improve teachers' experience of using ICT in the classroom and increase school managers' involvement in ICT implementation. The CCTI has been initiated in several Commonwealth countries, and currently 20 teachers from Saint Vincent and the Grenadines are in the final stages of the programme.

COL DEVELOPS EMPOWERMENT INDEX

Social economist and writer Naila Kabeer defines empowerment as the expansion of people’s abilities to make strategic life choices in a context where they were previously denied this ability. COL has adopted this definition for the creation of a comprehensive empowerment framework that seeks to measure the influence of COL’s Lifelong Learning for Farmers (L3F) programme on empowerment (see image).

The framework has been pilot tested in Uganda and Kenya. This cross-sectional study compared an L3F village with a non-L3F village to test the efficacy of the framework. The survey resulted in an empowerment index, which showed that L3F participants had a significantly higher average empowerment index score than non-L3F participants. In addition, when empowerment was examined in terms of gender, L3F women’s empowerment index scores were higher than non-L3F men’s. COL is now planning to refine this index further and

		REALM		
		Household	Enterprise	Community
DEGREE	Knowledge			
	Desire			
	Means			
	Action			
	ASPECT			
	Psychological/Emotional <i>E.g.: Self-esteem; confidence; self-efficacy; capacity to aspire; subjective well-being.</i>			
	Social/Cultural <i>E.g.: Freedom of movement; education; health care; marriage; reproduction; social interactions; group membership.</i>			
	Economic/Entrepreneurial <i>E.g.: Income; access to and control of resources.</i>			
	Political/Legal <i>E.g.: Legal and political systems, rights and government services; political involvement; exercising rights.</i>			

conduct studies on the L3F programmes in Ghana and Tanzania, which are sponsored by Canada’s Department of Foreign Affairs, Trade and Development.

As a thought leader, COL will continue to contribute to the discourse on empowerment. It is hoped that the framework will be a tool for both academics and practitioners who are interested in creating an index to measure empowerment.

GENDER WORKSHOP IN LESOTHO



Participants of the Gender Mainstreaming Workshop gather for a group photo at the National University of Lesotho

COL held training for Virtual University for Small States of the Commonwealth (VUSSC) interlocutors from southern Africa. The workshop covered a wide range of topics, including basic gender concepts, applying these to analytical frameworks and designing appropriate strategies for gender planning. At the end of the workshop, 90 per cent of participants felt that their understanding of gender-related concepts had improved,

and one participant indicated the intention to “propose a similar intervention for programme developers and learner support staff at my institution”. Following this workshop, COL is confident that VUSSC interlocutors are more aware of and focused on gender perspectives. In particular, interlocutors have expressed an interest in creating a VUSSC course that would build gender awareness among content developers in small states.

CONNECTING SAMOA THROUGH SOCIAL MEDIA

Social media training for a range of community development activists is increasing the channels through which people communicate in Samoa. In October 2014, Pacific social media expert Verleshwar Singh facilitated a workshop for the training team of a small environmental trust called Matuaileoo Environment Trust Inc. (METI), as well as members of the Samoa National Youth Council and the Samoa Teachers’ Association. Participants learned how to incorporate social media tools into their work and build their online communities.

COL PARTNER WINS AWARD

COL began working with the women of VIDİYAL – a not-for-profit organisation in the Theni District of Tamil Nadu – in 2009 through its Lifelong Learning for Farmers (L3F) programme. The last six years have shown L3F's ability to influence the empowerment and livelihoods of these women. COL's Education Specialist for the L3F programme, Bala, said, "I am so proud of these women and what they have been able to achieve. We know we have succeeded when we are no longer needed."

The National Association of Software and Services Companies (NASSCOM) is a trade association of the Indian information technology and business process outsourcing industry, with over 1,500 members in India, the U.S.A., the U.K., the E.U., Japan and China. NASSCOM established a foundation to support the industry's efforts in information and communication technologies for development (ICT4D). Each year, the foundation recognises efforts made by individuals, groups, organisations and corporations in the field of social innovations, addressing gaps in key developmental areas and fostering inclusive growth.

This year, VIDİYAL received the prestigious NASSCOM Foundation award for Knowledge Management of Small and Marginal Farmers



Mr K Kamaraj (far left) receives the NASSCOM award from the Honourable Ravi Shankar Prasad (third from left), Minister of Communications and Information Technology

through ODL Systems, under the category of ICT-led Social Innovation by a Not-for-Profit Organization. VIDİYAL was selected out of over 1,000 entries. Mr K. Kamaraj, the chairman of VIDİYAL, received the award from the Indian Minister of Communications and Information Technology, the Honourable Ravi Shankar Prasad. Mr Kamaraj thanked COL for its intellectual, technical and financial support, saying that COL had introduced VIDİYAL to open and distance learning (ODL) and L3F.

The award will help provide VIDİYAL with industry-led mentoring and seed grants to scale up ODL and L3F activities.

CAPACITY-BUILDING ON OER-BASED eLEARNING, INDIA

The Commonwealth Educational Media Centre for Asia (CEMCA) partnered with the Government of India and the Consortium for Educational Communication (CEC) to host a national capacity-building workshop on OER-based eLearning. Participants came from four Indian open universities as well as the Educational Multimedia Research Centre and CEC.

The workshop began with remarks from CEC's Director, Professor Rajbir Singh, who explained the role of the CEC in developing eContent for higher education in India. Professor Singh believes that the training workshop will enhance participants' capacities to understand OER and Creative Commons licensing. He called upon participants to develop a strategic plan for launching similar eLearning programmes in their respective institutions.



Participants hard at work during the national capacity-building workshop on OER-based eLearning in New Delhi, India

VUSSC AND ROYTEC CREATE OER PROGRAMME

COL's Virtual Universities for Small States of the Commonwealth (VUSSC) and the University of the West Indies (UWI) School of Business and Applied Studies, ROYTEC, have teamed up to retool the VUSSC Bachelor in Business and Entrepreneurship (BBE) programme. The BBE was originally developed in 2011 by a group of educators from 14 small states. Together they have contextualised the course, taking into consideration the needs of each institution and country.

The programme is set to launch in 2015 and will be the first time that the Trinidad and Tobago Accreditation Council (ACTT) has ever accredited a programme developed using open educational resources (OER). ROYTEC's former Executive Director, Mr Earl Browne, welcomed the new programme, noting that "the BBE was developed using OER materials, thus giving ROYTEC [the ability] to integrate OER into their institution, [helping] to bring down the cost of programme development, which [will] also be passed on to the learners. I believe the BBE programme will have a successful outcome."

COL's Education Specialist for VUSSC, John Lesperance, also commented that "the ROYTEC approach to implementing the BBE and using OER is proving to be an excellent case study for COL, and VUSSC is going to use this model to replicate it in other small states."

This programme opens the doors for future OER courses to be accredited by the appropriate bodies.

WHAT DOES THE COMMONWEALTH OF LEARNING MEAN TO YOU?

“Partnering with COL has helped me and my institution understand the immense possibilities offered by OER, and the opportunities for bringing English language teacher education up to scale. I am very grateful to COL for supporting and sponsoring our project on developing an ELT diploma programme for primary English teachers.”

Padmini Boruah



“When I think of COL I think of many other people like me who managed to discover their own path and sustain their success using distance learning to open for themselves new opportunities. COL is doing great for humanity.”

Osman Eshag

“Since I have been a member of INVEST Africa, I have learnt so much in three years, more than I had learnt in the previous 18 years as a teacher.”

Freda Kibata



“COL is credited for enlightening and guiding me when circumstances in Iraq were most difficult in 2005-2006. Distance learning was a mere abstract value for me, but COL gave a deep meaning to this value. The COL effect remains sustainable up to this very moment: two days ago, I wrote a diplomatic telegram (very unusual for local staff). It was approved by the ambassador and sent to the British embassies across the world! I received the rating of 4.8 out of 5.”

Najwa Al-Habeeb



“COL works for the farmers in the lowest rung who are illiterate and poor.”

Ms Anokiamary



“COL courses have enhanced my writing skills. Thus, they have directly improved the quality of my work with UNHCR Syria and have also enabled me to alleviate the suffering of many refugees in Syria. The Commonwealth of Learning offered me the award of Excellence for an eLearning Experience in Difficult Circumstances, which motivated me to continue my improvement.”

Dania Yamani



“COL provided me with the opportunity to see my dream become a reality. On completing this programme, I will be qualified/equipped with the necessary skills and knowledge to assist in instructional and curriculum design at my workplace and also at a Ministry of Education level. Hence, I will be adding value to the nation building of Grenada, Carriacou and Petit Martinique.”

Vanessa Whiteman



“It is COL which showed me and my organisation (Siyaya Seed SACCO, Kenya) that learning linked to social capital and financial capital can lead to the empowerment of women.”

Ms Victorine Atieno



“APTUS is a device for TODAY. We need to take it all across the country. The connectivity in districts – is still an issue, and that is where APTUS is the apt answer. APTUS can make a huge difference in our extension system.”

Ved Sharma



“For the General Agricultural Workers' Union, COL is a strategic partner in our effort to build the capacities of men and women agricultural workers in Ghana to increase their productivity and enhance the livelihoods of their families.”

Mr Karim Saagbul



“COL invested in my professional development. COL's MIDT programme is adding value to my role as an administrator... [and] I am very excited to use some of the techniques to enhance my knowledge and experience as the Coordinator of Distance Education and apply [my] knowledge in the teaching and learning process at my institution.”

Caundi Lucas



“COMOSA is eternally grateful to COL for guiding and spearheading its activities to ensure a robust, stable and sustainable sector which embraces the strengths of each open school, and forging strategic partnerships while building local and regional capacity in open schooling.”

Lystra Sampson-Ovid

OUSL ADOPTS OER-BASED eLEARNING

The Open University of Sri Lanka (OUSL) is adopting the OER-Based eLearning Professional Development course for teachers developed by Commonwealth Educational Media Centre for Asia (CEMCA). This six-month online programme will enable faculty members of the OUSL to develop eLearning courses and programmes using open

educational resources. CEMCA assisted the OUSL in adapting the programme and trained local tutors for online facilitation. The online programme was officially launched by Dr. Vijitha Nanayakkara, Vice-Chancellor of OUSL in a workshop. Dr. Som Naidu facilitated the orientation workshop for 40 teachers participating in the programme.

A MOOC IN AFRICA

COL is partnering with the African Virtual University to offer a MOOC for teachers and teacher educators. This continuous professional development course, titled Using ICTs to Enrich Teaching and Learning, will help teacher educators utilise information and communication technology to enrich their work and to improve their own

knowledge and skills. The course will also benefit practicing teachers who want to use ICT to make teaching and learning in their classrooms innovative and exciting, as well as relevant to learners' needs and curricular demands. Over 1,500 participants from many countries have enrolled for this course.

MOOCs IN MALAYSIA

Wawasan Open University (WOU) is offering two MOOCs which have been supported by COL.

The course on Action Research encourages teachers, as reflective practitioners, to undertake classroom-based research to look into their practice. This is done as a means of continuous self-improvement and professional self-development, with a view towards improving the quality of the teaching and learning processes at the practitioner level.

The OER in eLearning course was created to facilitate a more economical and expeditious alternative to using printed materials when developing and offering courses and programmes, and to promote the use of OER in educational institutions. This is part of COL's ongoing capacity building in the development and use of OER.

CONVERSATIONS: DR ATIENO

COL sat down with Dr Rosemary Atieno to talk about her two-week professional attachment at the organisation. COL regularly supports professionals working in education and supplements its capabilities by taking on short-term professional attachments at its office in Vancouver, Canada.

Dr Atieno is an associate professor at the University of Nairobi and specialises in economic development, with a focus on agriculture. She is a talented researcher and has contributed to many scholarly publications; this is how Bala, COL's Education Specialist for Lifelong Learning for Farmers (L3F), discovered her work. Dr Atieno came to COL as part of a research project focused on measuring the results of the L3F programme. She and another COL L3F staff member, Alexis Carr, began developing a methodology and framework for an impact study that measures whether L3F expands people's freedoms to exercise strategic life choices.

Dr Atieno is no stranger to conducting impact studies, but she found her experience with COL refreshing. "There is something unique about their engagement," she commented. "[COL] partners are efficient and easy to work with; I like COL's approach." When

asked what she valued most about COL, Dr Atieno said, "It is work that has an impact already; it is quantifiable." Tangible results are exactly what the Kenyan and Ugandan impact studies demonstrate:

L3F groups have significantly improved food security, income and empowerment compared with non-L3F groups.

After two years of working with COL on the impact studies, Dr Atieno came to its Vancouver office to consolidate the findings and present the research to COL staff. As a seasoned traveller, she wasn't fazed by a Canadian winter, and she remembered that Vancouver has several times been named one of the world's top 10 most liveable cities. However, the experience that stood out the most was her time spent at COL: "The environment is very nice;

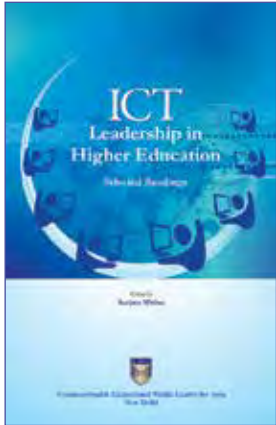
you can do so much work here," said Dr Atieno. "I've accomplished a lot and enjoyed the teamwork and people at COL." On her last day, the team gave a presentation of their work to COL staff and discussed their plans to refine the impact studies further.

Dr Atieno returns to full classrooms of students who are eager to learn about agriculture development policy and the economics of agriculture in Africa, the two courses she will teach to master's students this semester.



From left to right: K Bala, COL Education Specialist for Lifelong Learning for Farmers; Alexis Carr; President and CEO of COL, Professor Asha Kanwar; Dr Atieno; Vice President of COL, Vis Naidoo

ICT LEADERSHIP IN HIGHER EDUCATION



Integrating information and communication technology (ICT) in education is tremendously challenging, especially in the higher education sector. While there are several factors in successfully integrating ICT in teaching and learning, strong leadership support and institutional commitment play a significant role. *ICT Leadership in Higher Education: Selected Readings*, edited by Dr Sanjaya

Mishra, is a high-quality resource that brings together scholarly works on this important subject. The book was published by the Commonwealth Educational Media Centre for Asia and is available as an open resource on COL's website.

MAINSTREAMING GENDER EQUALITY



Gender mainstreaming is a strategy and process for ensuring that both sexes are able to participate equally in decision making and have equal access to resources, opportunities and benefits. Its purpose is to attain gender equality, which is essential for the creation of healthy and sustainable societies. From a learning perspective, this is achievable

by using technologies and open and distance learning (ODL) modalities. Learning opportunities are the drivers of social change and economic growth.

Gender mainstreaming in learning for sustainable development means having gender-responsive ODL policies, plans and programmes to pave the way for girls/women and boys/men to achieve their full potential.

As part of the *Knowledge Series*, this is a start-up guide that provides ODL practitioners and institutions with the information needed to initiate gender-responsive learning by establishing an organisational culture that promotes gender equality, and by identifying and addressing the barriers to learning for both girls/women and boys/men.

EQUALITY REQUIRES ACTION FROM US ALL

On 8 March of each year, the world celebrates International Women's Day. This year's theme, "Make It Happen", is a call to action for advancing and recognising women. International efforts to positively impact the lives of women and girls have made a difference, but inequality still exists. According to a recent COL study, women in the Commonwealth are more likely to live in poverty than men. While universal primary education has been helpful in getting more girls into school, their educational achievements have not materialised into proportional employment opportunities and earning potential. Women are also hindered by gender-based norms and practices, such as child marriage. Additionally, women often lack decision-making power. It is clear that more work is needed before equality is realised.

Barriers to women, such as gender-based violence and a lack of women in decision-making positions, are the manifestations of inequality. To end these practices, we must achieve equality, and that requires the changing of hearts and minds – it requires all of us.

At COL, we believe that every organisation, company, government and not-for-profit group can contribute to advancing women's empowerment and gender equality. Bringing gender awareness to all decisions can help mitigate disempowerment and other adverse effects. Achieving equality is linked to personal and organisational beliefs and practices. Therefore, raising an internal consciousness will help bring a gender focus to external activities.

Gender awareness might sound complicated to practice, but a few simple actions can go a long way in raising sensitivity and cumulatively helping to promote equality. Internally, this can be as straightforward as raising awareness amongst staff about gender-based issues and topics. For example, in February, COL staff held a mock debate that helped them relate to diverse arguments and understand that different perspectives on gender exist both at home and in the field. This action demonstrates how easy it can be to bring discussion and awareness to an organisation.

While an internal gender consciousness can help improve programmes and activities, organisations must also put in place specific gender mainstreaming approaches. COL has developed a number of resources, such as 'Gender Keys' and the *Gender Mainstreaming Toolkit for Teachers and Teacher Educators*, and helps its partners by assisting in policy development and facilitating workshops. For example, late last year, INVEST Africa (Innovation in Vocational Education and Skills Training) champions and WITED (Women in Technical Education and Development) chairs from 13 partner institutions came together to explore gender mainstreaming in technical and vocational education and training (TVET) institutions. The workshop focused on practical skills in gender analysis, planning, implementation and evaluation. The participants now have plans to implement gender tools in their programmes and are contextualising the Teacher Toolkit to support gender mainstreaming in TVET.

Activities such as workshops generate conversations that can contribute to greater awareness about gender issues, encourage policy building and better programmes, and catalyse change within people's minds. Using available open resources and facilitating gender training are effective ways to bring gender awareness to staff, policy, programmes and activities.

Women are integral to the future of the planet. Their inequality affects us all and requires each of us to make a difference. While incorporating a gender focus internally and externally requires a specific commitment and effort, the process can be started with a few simple steps. This year, let's commit ourselves to taking specific actions to achieve equality – let's make it happen.

COL BOARD

Shri Satyanarayan Mohanty and **His Excellency Hubert J. Charles** have been appointed to COL's Board of Governors as representatives for India and the Caribbean, respectively.

Shri Satyanarayan Mohanty is the Secretary of the Department of Higher Education in the Indian Ministry of Human Resource Development. Mr Mohanty replaces Shri Ashok Thakur, who retired in September 2014.

His Excellency Hubert J. Charles is currently the Commonwealth of Dominica's Ambassador to the United States of America and the Permanent Representative to the Organisation of American States. Before becoming an ambassador, H.E. Charles served as the President of Dominica State College and served as Permanent Secretary, in Government Ministries. As a long-time employee of UNESCO, he served in a number of capacities including, Advisor, Regional Representative and Country Director in a number of Commonwealth countries. H.E. Charles replaces Professor Clement Sankat, who completed his term on the COL's Board in December 2014.



Shri Satyanarayan Mohanty



His Excellency Hubert J. Charles

Photo credit: OAS.org

COL STAFF

At the beginning of the year, COL welcomed **Dr Sanjaya Mishra** to its Vancouver office as the Education Specialist for eLearning. Previously, Dr Mishra served as Director of the Commonwealth Educational Media Centre for Asia, New Delhi, from 1 July 2012 to 31 December 2014. Before joining CEMCA, Dr Mishra worked for UNESCO, Paris.

Dr Mishra is a leading scholar in open, distance and online learning. He has over 20 years of experience in the design, development and management of open and distance learning programmes, as well as a blend of academic and professional qualifications in library and information science, distance education, television production and training and development. Dr Mishra has been promoting the use of educational multimedia, eLearning, open educational resources and open access to scientific information around the world, and particularly in Asia.

Alicia Swinamer also joined COL in the new year as Stakeholder Relations Manager. Alicia is a public affairs specialist and has worked for three Canadian federal cabinet ministers. She has an intimate knowledge of government operations, as well as experience working with international organisations to facilitate and enhance stakeholder management and networking.

She has been involved in various Commonwealth organisations for over eight years and co-founded and directed MYCommonwealth, Canada's youth representative body to the Commonwealth. Alicia has a Masters of Political Science from Dalhousie University and a Bachelor of Arts (Honours) from Carleton University. She is also a recipient of the Queen Elizabeth II Diamond Jubilee Medal.

Congratulations to **Ms. Jasmine Lee**, Executive Assistant to the Vice President, who will be completing 25 years of service at COL in April 2015! Her commitment and dedication to the work of COL is very much appreciated.



Dr Sanjaya Mishra



Alicia Swinamer



Jasmine Lee

LESSONS FROM THE FIELD WHEN USING DIGITAL TECHNOLOGY

The COL eLearning with International Organisations (COL eLIO) initiative customises eLearning solutions to address the specific challenges of international organisations. These solutions use open, distance and technology-mediated learning methodologies to provide equitable and quality professional development opportunities for women and men working in headquarters, field and country offices.

We live in a world filled with digital technology. With innovations released daily, it is easy to get swept up in the hype, but new isn't always better. Here are COL's top three lessons to keep in mind when using digital technology in the field.

- 1 **Don't be afraid to go back to basics:** When eLIO first developed and delivered the Writing Effectively course for UNHCR back in 2000, it used email to provide immediate, one-on-one tutoring support for distance learners. As technology evolved, COL switched to a learning management system that promised to provide everything in one place. However, this high-tech system suffered from constant upgrades that decreased its reliability. COL's team was initially reluctant to revert to email for fear of "going backwards". However, now that they are using email again, 100 per cent of the learners in the current cohort are in contact with their tutor.

Technology should be a tool that helps you achieve your goals. If something new is getting in the way of your effectiveness, ask yourself whether it's time to get back to basics.

- 2 **Always adapt to the local context:** The UNHCR has an extensive online learning culture, with learning materials typically hosted on a web portal. However, COL found that some learners in remote refugee camps did not have reliable Internet service and could not access online content. As a result of COL's advocacy, the UNHCR shared with COL an offline version of the web portal. This version allows learners to complete their studies on a USB that can be used for uploads when Internet access is available.

The most innovative and high-tech programme will be useless if those you are trying to reach cannot access it. Check with your local partners to assess their technology capabilities, and adapt accordingly before implementing a programme.

- 3 **Listen to your grassroots:** Many decisions come from the top down, but there is a lot to be gained from listening to the people on the ground. eLIO does not normally encourage tutors to use voice conversations, preferring text-based interactions. However, one tutor recognised that several of his learners required a deeper dialogue to explain complex concepts, a need that only voice conversations could meet. eLIO allowed this tutor to use Skype to assist these students.

Avoid the common mistakes of top-down approaches. Keep in contact with your grassroots to learn valuable information about how to improve your programmes and delivery.

THE LAST OER KILOMETRE

Is there an OER “last kilometre problem” and, if so, how do we propose to fix it?

David Porter



Awareness of open educational resources (OER) has skyrocketed over the past few years, with governments and educational institutions increasingly seeing the potential of an open future for education. Starting with the UNESCO-COL Paris OER Declaration in 2012 and its recommendation

that educational resources paid for by public investment should be openly licensed and freely available, governments and foundations across the planet have begun to require that Creative Commons attribution (CC-BY) licences be applied to the projects that they fund. Many government research organisations have specified a parallel policy direction, with a view to making research publicly accessible.

However, all of this intentional policy direction and OER availability assumes that open resources can get to their intended audiences, and that these audiences will know what to do with them and be prepared to effectively use and sustain them over time. I’m wondering whether there is an “OER last kilometre problem”, a gap in the supply chain that hinders access to OER innovation and its use in education settings. If this gap exists, how would we propose to eliminate it?

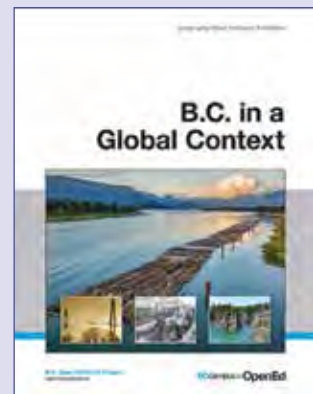
The key link in the chain of access to OER in tertiary education is the instructor. In many higher education settings, the instructor selects the resources that will be used in a course, then designs lessons, activities and evaluation around the selected resources. This model of practice leaves it up to students to purchase, rent or otherwise procure the required course materials. Studies in the university sector have demonstrated that resource costs have been a critical factor in students’ choices about which courses to take (Florida Virtual Campus, 2012). Not surprisingly, taking courses without the necessary resources for study can have serious implications for student success.

Consequently, many student groups in North America have taken an activist position on OER use, advocating to institutions and instructors for the selection of OER and open textbooks for their courses (Allen, 2010; Hill, 2014). But this approach alone may not be enough to convince instructors.

A recent study in the United States found that “faculty were most influenced and motivated to adopt innovative

techniques if the techniques ensured that students learn” (FTI Consulting, 2015, p. 5). One way forward might be to ensure that open resources and open pedagogies align with instructors’ desire for more effective teaching practices. There are a number of very interesting ways forward in this direction, involving co-creation, co-research and other collaborative practices.

The power of resource localisation by instructor teams has been demonstrated. In 2014, a British Columbia (BC) geography open textbook “sprint”, in which faculty members from multiple institutions collaborated for a week at the University of British Columbia, produced an openly licensed first-year textbook localised for BC students (BCcampus, 2015). Similar “course sprint” models could be a key strategy in OER implementation projects and may be scalable for localising and sustaining open resources supported by a community of practice.



Co-research and co-creation of learning resources could also provide a powerful new strategy for building and improving courses. The “dynamic content authoring process” operated by Williams (2005) at the University of Northern British Columbia, and the ChemWiki (2015) project designed and operated by faculty from the University of California, Davis, provide examples of practice models that demonstrate agile and sustainable resource development environments supported by faculty and students, with inherent benefits for both.

To close the gap, we need to work on multiple fronts with governments, institutions, instructors and students to actualise the values inherent in an open education future. Intentional policy and freely accessible resources are a very good first step, but it is the incorporation of open practices into the working lives of instructors, researchers and teaching colleagues that will actually eliminate the OER last kilometre.

David Porter is the project manager for the Task Force on Flexible Education at Simon Fraser University. David is a long-time advocate for the benefits of adapting new technology to deliver educational opportunities.

COL SIGNS MOU WITH THE COMMONWEALTH FOUNDATION



Left to right: COL President and CEO, Professor Asha Kanwar, and Commonwealth Foundation Director, Vijay Krishnarayan, sign a MOU at Marlborough House.

On 24 February 2015, COL and the Commonwealth Foundation signed a memorandum of understanding at the Commonwealth headquarters, in London, signalling their renewed commitment to project collaboration and organisational learning. Vijay Krishnarayan, Director of the Commonwealth Foundation, said of the agreement: “Such partnerships don’t just happen, but start with a shared outlook and stem from a realisation of mutual interest and respect between colleagues.” The partnership will focus on sharing resources, research and case studies on relevant aspects of education, public policy and development outcomes.

Professor Asha Kanwar, President and CEO of COL declared, “We have to move from ideas to action; from intent to real concrete results. With the Commonwealth Foundation we have a solid basis of trust. We are both small organisations, and this kind of joint programme helps us leverage our resources and work to each other’s strengths.”

The Foundation and COL look forward to two more years of productive collaboration in support of Commonwealth principles and values.

COL HELPS EXPAND TRAINING IN T&T

In November 2014, a group of Trinidad and Tobago (T&T) police trainers enrolled in COL’s Developing and Teaching Online Courses programme, and they graduated this year. The course was developed by COL with the help of small states. The Virtual University for Small States of the Commonwealth (VUSSC) has offered the course to build capacity in eLearning so that partners can develop online courses and deliver these on a learning management system. Such courses help COL’s partners reach beyond classroom walls, enabling them to scale up their training efforts efficiently and affordably.

Demand for this VUSSC course is increasing. The Caribbean Public Health Agency (CARPHA) has signed up 12 officials, and the T&T police academy has enrolled a second cohort of 12 trainers for the March 2015 offering.

Both organisations will use eLearning in their effort to enrol more learners. The police academy will deliver their customer service course online, and CARPHA will offer the online version of their Field Epidemiology and Laboratory Training Programme. This will support the continuing professional development of staff in these two organisations.

COL AT UNESCO MOBILE WEEK

COL actively participated in UNESCO’s Mobile Week, delivering two presentations and moderating a high-level panel. COL’s President and CEO, Professor Asha Kanwar, moderated the panel on “Understanding Technology’s Role in the Post-2015 Development Agenda” and delivered the presentation “Can Mobile Learning Empower Women and Girls?”. COL’s Director, Technology and Knowledge Management, V. Balaji, delivered a presentation on COL’s innovative Aptus Classroom Without Walls.

TRANSNATIONAL QUALIFICATIONS FRAMEWORK FOR COMMONWEALTH SMALL STATES APPROVED

Members of the Transnational Qualifications Framework (TQF) Management Committee announced the completion of the review of The Virtual University for Small States of the Commonwealth (VUSSC) TQF. The Open University of Malaysia hosted a meeting during the first week of March to finalise the review of the TQF, the referencing of National Qualifications Frameworks (NQFs) against the TQF and approve the registration of six VUSSC programmes on the TQF.

The TQF will function as a translation device making qualifications more

readable, which in turn, will help learners and workers move between countries or change jobs. It is a key aim of the TQF to contribute to creating a workforce in small states that is mobile and flexible.

The following six programmes were approved for registration in the TQF: Bachelor in Business and Entrepreneurship, BSc (Hons) Business Entrepreneurship, Diploma in Sustainable Agriculture in Small States, Certificate in Tour Guiding, BSc in Environmental Science and a Master’s in Educational Leadership.

COMSEC SG HOLDS RECEPTION FOR COL

The Commonwealth Secretary General, Kamlesh Sharma, hosted a reception in honour of COL at the historic Marlborough House, in London. The reception took place following COL’s executive board meeting in late February, where COL presented its Strategic Plan 2015–2021.

WE VALUE YOUR FEEDBACK!

Please take a few moments to fill out a brief survey on Connections.

www.surveymonkey.com/s/RQH28VJ

INTERNATIONAL WOMEN'S DAY



COL actively participated in International Women's Day. COL's President and CEO, Professor Asha Kanwar, delivered a video message highlighting key lessons to "make

it happen" for girls and women in the Commonwealth. Rosanne Wong, COL's Gender Equality Manager, reflected on COL's achievements over the past three

years in her blog "2015 International Women's Day". COL also released a blog on "Gender Successes and Gaps in the Commonwealth".

International Women's Day

WORLD RADIO DAY OBSERVED IN NEW DELHI



Community Radio" and "Internal Migration: A Manual for Community Radio", CEMCA and UNESCO initiatives, respectively. The celebration also included opening remarks, delivered by Mr Shigeru Aoyagi, Director of the UNESCO

The Commonwealth Educational Media Centre for Asia (CEMCA) and UNESCO celebrated World Radio Day on 13 February 2015. The South Asia Network for Community Media (SANCOM) was officially launched and two studies were released: "Innovation in

New Delhi Office and Dr Ramesh Sharma, Director, CEMCA, and a keynote by Mr Jawhar Sircar, Chief Executive Officer, Prasar Bharati. A panel discussion followed, featuring key activists, government officials, radio and media associations and academics.

CANADIAN HIGH COMMISSION HOSTS RECEPTION IN HONOUR OF COL

Canada's High Commissioner to London, His Excellency Gordon Campbell, hosted a prestigious reception in honour of COL in February. The reception was well attended by over 100 guests, including Commonwealth high commissioners, officials and organisational representatives. COL's President and CEO, Professor Asha Kanwar, gave a brief introduction to COL.



Left to right: COL's President and CEO, Professor Asha Kanwar, and Canada's High Commissioner to London, His Excellency Gordon Campbell, pose for a picture during the reception at Canada House

CALL FOR PAPERS: JOURNAL OF LEARNING FOR DEVELOPMENT

The online *Journal of Learning for Development* (JL4D) provides a forum for the publication of research with a focus on innovation in learning – particularly but not exclusively open and distance learning – and its contribution to development.

COL is calling for your contributions to a special issue titled "Critical Perspectives on Innovation,



Technology and Learning for Development". Professor Paul Prinsloo of the University of South Africa is the guest editor for this edition. The submission deadline is 26 April 2015.

Please submit articles through the JL4D website, selecting "Special Issue" when uploading your paper for consideration. The target date for publication is September 2015.

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Chair: Dr. Linda Sissons, CNZM
President & CEO: Professor Asha S. Kanwar

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CAN THE SMARTPHONE AND THE BASIC MOBILE PHONE WEAVE THE WEB TOGETHER?

Eight years ago, Steve Jobs launched the iPhone and started a revolution. Among gadgets, smartphones have the highest global sales. In some emerging markets, it is possible to buy a smartphone for roughly USD 50. According to Gartner, a prominent market research company, shipments of smartphones in 2014 exceeded those of basic mobile phones.

Applications for smartphones (apps) are now estimated to number in the millions. Smartphones, powered by apps, can replace a wide range of control devices, starting with the TV remote. They are now considered useful and in some cases essential in managing anything that can be connected to the Internet, an entertainment device, a computer or even a fridge.

These powerful hand-held computers are also increasingly used to access the web. People conduct searches to locate an item of interest, be it a resource to browse or a product or service to purchase. A significant portion of these searches now take place through apps instead of search engines.

With a smartphone, users tend to work with the web differently, and this has implications for learning. In a number of developed countries, students use smartphones extensively. Designing apps for formal learning, particularly in higher education, is already widespread.

Smartphones are spreading faster than ever, and apps are exploding, but not fast enough to reach many of the people COL routinely engages with. Villagers, smallholder farmers or nomadic shepherds, for example, do not use smartphones. How can they make use of the advantages that the web is offering learners who can connect to the Internet? This challenge is why COL is so interested in learning-related solutions for basic mobile phones. This is consistent with COL's philosophy of openness and commitment to finding low-cost solutions.

Innovations in technology are beginning to allow basic mobile phone users to experience the web advantage in learning. These advancements make use of one simple fact: today's telephony is

largely software-based. A telephone exchange is no more than a piece of software that can run on a computer. For example, Asterisk, an open source application, can provide a complete private automatic branch exchange for an organisation. FreeSWITCH, another piece of open source software, can provide a telephony platform. It can also support the development of newer telephony applications.

Some of the recent innovations make use of software applications like Asterisk or FreeSWITCH to connect voice and messaging services directly to a learning management system (LMS). This allows interaction between the LMS and the phone, even if the phone does not have access to data services. The user does not need any additional software at all.

A standard, basic mobile phone that can connect to voice or texting service is all that a user needs.

An example is the LIVES application developed at the University of British Columbia for deployment in COL's Lifelong Learning for Farmers initiative. LIVES uses Asterisk to connect voice and text messages from the mobile phone to the LMS and vice versa. This has been in successful operation for three years.

It is now possible to offer an online course to learners who use a basic mobile phone (see "Can a Gardener Without Internet Access Take a MOOC?"). Even in a formal learning setting, difficulties in bandwidth availability can limit users' experience of online learning. To help learners overcome this constraint, mooKIT, a platform used by COL and IITK, allows users to receive the audio track of a video lesson over their phones even as they browse the slides or notes on their local computers.

While formal learning via mobiles still requires apps to use the web, the transformation of telephony into software is enabling basic mobile phone users to experience the web advantage and access non-formal learning opportunities. Using advances in open source telephony software, both basic mobiles and smartphones can take advantage of the openness of the web. These two devices, separated by a paradigm, can still weave the web of learning together.



MOBILE VIRTUAL NETWORK OPERATORS (MVNO)

Aggregating services from different mobile service providers and then retailing them to customers is rapidly emerging as a new business model. Called mobile virtual network operators (MVNO), these are encouraged by regulatory bodies in many

countries, especially in the European Union. At the Mobile World Congress, in March 2015, Google announced its intention to launch such a service this year. Costs of data services are expected to decline when this model spreads.