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Informal Learning and Non-Formal Education for Development

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Abstract

The following article examines the issues of open, distance and technology-based informal learning and non-formal education for individual and community development. It argues that these two modes of education, which are estimated to constitute 70-90% of lifelong learning, are insufficiently represented in the literature of open and distance learning and development. To ensure that these forms of provision take their rightful place alongside the mainstream systems of formal education, it is posited that far more research and evaluation is needed in order to demonstrate their potential and evince quality in their outputs, outcomes and impacts.

Introduction

The launch of the *Journal of Learning for Development* is to be celebrated on four accounts.

Firstly, this further affirms that *learning for development* is the overarching aim of COL's 2012-2015 Three-Year Plan in support of achieving a number of the Millennium Development Goals (MDGs), Education for All (EFA) goals, and Commonwealth priorities of peace, democracy, equality and rule of law.

Secondly, this publication provides opportunities to examine and report on learning for development in sectors other than formal education. The literature of open and distance learning (ODL) is overwhelmingly concerned with higher education, despite the fact that only 7% of the world's population will ever have a chance to study for a degree.

Thirdly, this journal provides the opportunity to apply the broader principles of educational technology, as well as the tools, to learning for development. Luppicini (2005, p. 108) defines educational technology as follows:

> A goal oriented, problem-solving systems approach utilising tools, techniques, theories, and methods from multiple knowledge domains to: (1) design, develop, and evaluate, human and mechanical resources efficiently and effectively in order to facilitate and leverage all aspects of learning, and (2) guide change agency and transformation of educational systems and practices in order to contribute to influencing change in society.

Reviewing 695 articles published in five prominent distance education journals between 2000 and 2008, Zawacki-Richter, Bäcker, Vogt (2009) concluded that research in this field is dominated by studies into computer-based education and instructional design while such issues as cultural factors, inter-institutional collaboration, leading and managing change and innovation, costing, professional development and quality are 'dreadfully neglected.' While many applications of learning for development make use of information and communications technology (ICT) and mass media, as shown in the examples in this article, those that succeed also evidence careful consideration of the learners' needs and

circumstances, instructional design and other systems that appeal to and support the learners.

Fourthly, this journal provides a *tabula rasa* upon which all of those practitioners and researchers committed to learning for human and community development can give full expression to their thoughts, ideas, experiences and findings in regard to this all-important dimension of lifelong learning.

Maximising Human Potential

The idea that societies can be improved by direct human action is relatively new. It owes much to the early 19th-century social theorists who held that advances in technology, science, and social organisation inevitably lead to improvement in the human condition and Marxist and post-modernist beliefs in the need for the constant disturbance of social conditions and the power of individuals and groups with the aid of knowledge, technology and experimentation to reshape their societies. Such thinking has certainly made life better for countless millions over the past 200 years. However, the fact remains that 85.4% of the world's population lives in developing countries in which millions of children, more than half of them girls, still miss out on even the most basic schooling, nearly a billion people are still incapable of reading a book or writing their own names, almost half the world's people still live on less than US$2.50 a day, and 1.2 billion 15 - 24 year olds represent 40% of the world's unemployed (World Economic Forum, 2012). Such inequitable access to educational opportunity fosters social unrest and hinders the realisation of untapped human potential that is so critical to development.

Most people's learning throughout their lifespans is informal, occuring in family, community and work settings (Jeffs and Smith, 1997, 2005, 2011) and much of what they also learn is by means of non-formal education. UNESCO (1997, p. 41) defines non-formal education as: "organised and sustained educational activities that do not correspond exactly to the definition of formal education [and] may have differing durations and may or may not confer certification." As the Council for Europe (2000) acknowledges, formal educational systems alone cannot respond to the challenges of modern society. They require reinforcement by non-formal educational practices and non-formal education needs to be a de facto partner in the lifelong process and accessible for all. These two collateral sometimes blurring forms of learning, informal learning and non-formal education, provide the basis for that critically important and enduring attitude: the desire to go on learning. However, despite their importance, it is difficult to find research findings or case studies regarding these means of learning for development, particularly in the context of developing countries. This article therefore aims to help set the research agenda by examining the issues, conceptual frameworks and interventions in this field.

Informal Learning

In the case of formal education, the goals, locations and methods are externally determined by the educational or training providers. In informal learning, the aims and pursuit of knowledge or skills are individually or group determined (Cofer, 2000) and it is commonly estimated that 70-90% of human learning falls into this category. Based upon a year-long study in the US, the National Science Foundation-funded LIFE Center developed a representation of the percentage of their waking hours that Americans spend in formal and informal learning environments throughout their lifespan (see Figure 1). It is important to note that much of the intermittent formal learning throughout people's working life shown in this figure may well be non-formal in nature. Basing his findings on a two-year study, Cofer (*2000*) calculated that each hour of formal learning gives rise to four hours of informal learning - a 4:1 ratio.

Figure 1. Estimated time spent in formal and informal learning environments
(LIFE Center: Stevens, R. Bransford, J. & Stevens, A., 2005)

Coffield (2000) opines that informal learning should not be regarded as an inferior form of learning or a mere precursor to formal learning, but as fundamental and valuable in its own right. Erault (2000) posits that there are three forms of informal learning: *incidental and implicit*, in which new facts, ideas and behaviours are learned without any conscious attempts or explicit knowledge of what is being learned; *reactive*, in which learning is explicit but virtually spontaneous; and *deliberate*, wherein there is clear intention to acquire new knowledge or skills. These three forms of learning are so much part of everyday life that they are rarely recognised as learning, but they form the basis for that critically important enduring attitude; the desire to learn and go on learning.

Incidental and Implicit Learning

Hague and Logan (2009) observe that encouraging and supporting self-directed informal learning is important to development. It helps individuals and groups face economic, technological and social change, improve their health and life expectancy, achieve greater self-efficacy, self-confidence, well-being and happiness, and develop shared norms and values. Part of being an effective facilitator of informal learning (and non-formal education) involves understanding how adults learn best. Knowles (1984) suggests that adult learners:

- Are internally motivated and self-directed
- Bring life experiences and knowledge to their learning experiences
- Are goal oriented
- Are relevancy oriented
- Are practical
- Like to be respected.

However, in developing countries and traditional cultures learning for development not only requires adherence to these principles but appreciation of how beliefs, ideas, behaviours and practices are transmitted from one individual to another, from one community to another, and from one generation to another (Phillips and Vaughn, 2009). While caution is needed to avoid the kinds of labeling and stereotyping which diminish people, educational and training providers may need to consider Hofstede's (1997; 2001) five dimensions of culture. The first of these is *power distance* - how people understand their place in the system. The second is *individualism vs. collectivism* - the extent to which there is strong group cohesion and a high degree of loyalty and respect for other members of the group. The third is *masculinity vs. femininity* - the traditional male or female values and roles in society. The fourth is *uncertainty avoidance* - the degree to which people seek rules, order and 'collective truth'. The fifth is *long vs. short term orientation* - the importance that societies place on tradition, the present and the future.

These cultural dimensions can explain observed differences in learning styles in non-industrialised societies and Western countries. In pre-colonial Africa, the foundations of indigenous education were preparedness, functionalism, communalism, perennialism and holisticism (Adeyemi and Adeyinka, 2003). Indigenous knowledge was generated by local communities in response to the particular physiological, agricultural, ecological, socio-economic, cultural and political challenges they faced (Fasokun, Katahoire & Oduaran, 2005). And education was concerned with the expected roles in society. Girls were socialised to serve their husbands, care for the home, teach their daughters the rudiments of home keeping and work on the farms. Boys were trained in whatever the particular ethnic groups, clans or families depended upon for their livelihoods — hunting, herding or farming (Marah, 2006). Both Ninnes (1991) — writing about informal learning in the Solomons —and Grimes and Crawford (2011) — describing learning in Australia's

remote traditional Aboriginal communities — note that this occurs through observation, imitation and trial and error in real life settings, respects common themes of law, land, language, kinship, identity, ceremony and autonomy and is significantly determined by the status of the person holding and imparting the knowledge. The Northwest Indian Applied Research Institute (undated) explains that traditional American Northwest Indian values, behaviours and learning are permeated by a sense of belonging, group solidarity and security and consensus rather than competing for personal advantage. The focus is on 'being' rather than 'becoming',listening is preferred to speaking and the emphasis is on affective communication, unfamiliar personal encounters are treated with caution and the orientation is to the present and immediate tasks to hand. Things happen when they are ready to happen. Grimes and Crawford (*2011*) warn that failure to acknowledge the educational implications of such findings can lead to misunderstanding, mistrust and rejection.

Informal learners' experiences of, and attitudes towards, educational technology also need to be considered from cultural and generational perspectives. Technology is neither culture-blind nor culture mitigating (Phillips and Vaughn, op cit). In the UK, 79% of adults report that they average 8½ hours a week on some form of technology-enhanced informal learning, mainly at home (Hague and Logan, *2009*). In Canada, 90% percent of 8-year-olds use computers, 60% have mastered apps on cell phones or tablets, and 10% already use educational software and 6% use computers for their homework (Conrad, 2013). In the US, the average 8-18 year old spends over 7 hours a day watching TV and using digital devices, as much time as they spend in formal schooling (Rideout, Foehr and Roberts, 2010). Research in Denmark, shows that so motivated to use ICT are pre-school children that if they are unable to receive help from their parents and teachers, they experiment or consult with their peers, both of which actions serve them well when starting school (Sørensen, Danielsen and Nielsen, 2007). Sugata Mitra's Hole-in-the-Wall experiments in India have shown that within a month of embedding computers in the walls of slums, local children without any prior experience or adult support are capable of browsing the internet, cutting and pasting, dragging and dropping items, creating folders, playing games and starting to use the Internet for learning. Dangwal and Kapur (2008) attribute this to children's inherent desire to make sense of the world, recognition of the importance of ICT and use of collaborative and trial and error learning without fear of making mistakes.

Sefton-Green (2004) concludes that technology-enhanced informal learning is an integral part of children's education because it not only develops technical knowledge and skills but is *constructivist* (enabling them to reflect upon and construct their own understanding of the world), *experiential* (involving behavioural and affective as well as cognitive dimensions) and *situated* (joining and learning from online communities through social media). These are the very attributes needed for learning for development, for self-directed individuals to break out of the confines of traditional learning and use, share or create information in innovative ways and, thus, become force multipliers in their own environments (Malyn-Smith, 2004). However, it must always be remembered that there are still many parts of the world where limited access to computers and the Internet limits children's and adults' opportunities for informal learning to be influenced and supported in these ways.

The mass media are another powerful means of incidental and implicit learning. Recognising that television viewing is a popular activity for pre-school children, the producers of such series as *Sesame Street,* and local variations like *Takalani Sesame* in South Africa and *Galli Galli Sim Sim* in India, combine [child development](#) concepts with innovative production techniques to provide informal learning for pre-schoolers in basic numeracy, literacy and social and motor skills development. TV programmes can also be designed to stimulate older children's experiential learning by encouraging visits to zoos and museums and creativity, critical thinking, and consideration of ethical issues.

When it comes to adult audiences, Katz, Blumler, and Gurevitch (1974) suggest that people not only turn to the mass media for entertainment or relaxation but to fulfill their needs for: *information about society* (through news, current affairs and documentaries); *sense of identity* (seeking behavioural models in magazines and soaps); *and integration and social interaction* (learning about other people's circumstances through novels, films and TV drama). There are also films and television series that are more intentionally educational. David Attenborough's wildlife programmes are recognised as a globally significant source of informal learning in the biological and environmental sciences (Dingwall and Aldridge, 2006), Al Gore's *An Inconvenient Truth* has done much to raise global awareness of climate change; (Marcus & Stoddard, 2009) and Ken Burns' TV documentary series, *The Civil War* brought that period of US history alive for millions worldwide. All such programmes enlarge peoples' experiences and encourage them to discuss these issues with others.

Reactive Learning

Because role models in the mass media strongly influence cultural attitudes and behavior, radio and TV 'soap operas' can be used to achieve scarcely noticed acculturation and impart pro-social values (Ryerson, 2007). The *telenovelas* pioneered in Latin America by Mexican writer-producer-director Miguel Sabido both promoted social development goals and appealed to mass audiences because their story lines were full of emotion, conflict and suspense. So popular was one of these soaps, *Simplemente*, which was designed to promote literacy that when the storyline had María marrying her literacy teacher, 10,000 fans gathered outside the church where the wedding sequence was being filmed, all in their Sunday best with gifts for the 'newlyweds'. Another *telenovela* using the Sabido Method promoted the personal benefits of family planning and led to greatly increased numbers of phone calls requesting family planning, voluntary workers, women enrolling in the national family planning clinics, sales of contraceptives and Mexico receiving the 1986 United Nations Population Prize for achieving the foremost population success story in the world. Invited to India, Sabido developed another TV series on caste and the empowerment of women. In this soap opera which regularly attracted audiences of over 50 million, a girl from a Hindu family fell in love with a Muslim boy and a young man wanted to marry a woman from a lower caste. At the end of each episode, the leading actor encouraged viewers to discuss the issues raised in the programme and during the programme's run, he received over 400,000 letters from young viewers pleading with him to convince their parents to let them marry the man or woman of their choice (Singhal, Rogers and Brown, 1993). Similar entertainment-education strategies are employed on radio and TV across the globe. Every week, seven million Kenyans watch a serial called *Makutano Junction* in which the characters behave in ways not uncommon to the viewers, such as errant husbands spending money on alcohol rather than life-saving medicine for their children. An SMS/text interface and website enables viewers to obtain follow-up information and put personal questions to experts (Bansal, 2012). In 1994 Taliban attempts to ban a radio soap promoting women's rights failed because so many Talibs were themselves enjoying the programme (Hegarty, 2012).

Nor should it be forgotten, as Haque (2012) observes, that in the developing world there are centuries-old traditions of using cultural forms to educate people. So providers of informal learning can also make use of street theatre, music, dance, puppetry and poetry to bring people together, present alternative viewpoints, stimulate discussion and build collective commitment to change. Dancer, researcher and social worker Sangeeta Isvaran (2004) describes her work for UNESCO, World Vision, Oxfam, Handicap International and other NGOs, in which she uses the performing arts and role-plays to strengthen bonds within and between communities and for the purposes of HIV/Aids and health education, empowering and rehabilitating sex-workers and healing for survivors of natural disasters.

Deliberate Learning

Again, a variety of media and methods can be employed to motivate and teach deliberate informal learners. For example, In India, combining Same-Language Subtitling (SLS) with the showing of Bollywood movies on TV provides over 200 million early-literates with 30 minutes of weekly reading practice at a yearly cost of US$1 per 10,000 people. Because these programmes have a particularly high appeal to women, this makes a strong contribution to the advance of female literacy (Kothari, 2005).

But it is radio which remains the most ubiquitous tool for reaching those on the margins of society in the developing world. Sets cost as little as US$5, are portable, run on batteries and can be used for individual or group learning by illiterate, semi-literate and minority language groups. Community radio, with its advantages of being local, having the listeners' trust and enabling the voices of communities to be heard is used widely in Africa, the Asia-Pacific region, the Caribbean and Latin America to raise local awareness of issues and educate listeners through drama, music, interviews, discussions, phone-ins and reports from the field. Ponti (2011) shows that a shift from the subject-authority pattern of education to an agential pattern of peer-based education results in more invested learning, so community radio is particularly valuable when it is interactive. Mudzi Wathu Community Radio in Malawi transmits weekly maternal and child health programmes with follow-up discussions by women's listening and learning clubs facilitated by specially trained local women (Pringle, Rosato and Simbi, 2010). In a number of countries, including Sri Lanka, Afghanistan, Kenya, Sierra Leone and Columbia, radio plays a valuable role in peace-building and community reconciliation in the wake of war and civil conflict. For example, in Uganda, the community-owned Radio Apac invited youths, women, politicians, the police, community elders and former Lord's Resistance Army (LRA) rebels into the studio to respond to comments and questions from the listeners and mediate the opposing views to teach tolerance and reconciliation (Baksh and Munro, 2009). Evaluating the agricultural development programmes provided by 25 radio stations in Ghana, Malawi, Mali, Tanzania and Uganda, the 2007-2010 African Farm Radio Research Initiative (AFRRI) found that dialogic programmes involving broadcasters, farmers, farming organizations, extension officers, researchers and NGOs and the use of mobiles for interviews, phone-ins, text messaging and SMS quizzes led to improved

farming methods (Perkins, 2011). The Canadian non-profit, Farm Radio International, which partners with 400 radio broadcasters in 38 African countries to fight poverty and food insecurity, uses the free open-source voice content management Freedom Fone system to reach communities without access to other media and enable callers, who because of literacy and language barriers might otherwise remain less heard, to send and receive text and voice messages via the most common telephony channels.

Communities in the developing countries who are still disconnected from the global technological revolution can also gain access to computers, the Internet and informal learning and skills training through telecentres. These centres operate in many countries and while they take different forms and operate under different names and management systems, their common aim is to reduce feelings of isolation and provide digital technologies and services for individual and community learning and development. A global organisation, Telecentre.org (http://www.telecentre.org), connects and helps grassroots telecentres to share ideas, resources, learning and best practice and build networks which help the members build on each other's work and develop a stronger, more sustainable telecentre ecosystem. Considerably ingenuity also is shown in the provision of mobile outreach. In Sri Lanka, the UNESCO-supported Kothmale Community Radio's ICT-equipped three wheel motorbike or eTUKTUK not only brings e-learning to local village people but enables them to plan, record and edit their own programmes (Grubb, 2006). In northwestern Bangladesh, in a project which received the 2005 US$1 million Bill & Melinda Gates Foundation Access to Learning Award, ICT-equipped river boats take technology and training staff into remote villages to provide informal learning in ICT, sustainable farming and health and environmental matters, and again help the villagers develop locally relevant materials (Alluri and Ballasubramanian, 2012).

Thanks to search engines such as Google, informal learners can immediately access any information they need. YouTube has matured into one of the biggest resources for educational content ever and social media tools enable learners to share knowledge and join learning communities. The worldwide move to free and open publishing also provides informal learners with access to vast range of online resource repositories, open education resources (OER) and massive open online resources (MOOCs). Twenty eight percent of the users of the Delft OpenCourseWare repository and 43% of those accessing the Massachusetts Institute of Technology's MIT OpenCourseware are informal learners (Didderen and Sloep, 2013). The UK Open University's OpenLearn provides informal learners with access to over 650 courses. Some of these learners may first have become aware of these learning opportunities through associated TV or radio programmes co-produced with the BBC. The OpenLearn website provides a variety of learning resources and activities, systems that compare users' profiles, suggest items they may have not yet considered and enable them to create personalised learning environments, and information and support for learners wishing to progress from incidental to more deliberate or formal learning (Gomez et al, 2012). OpenLearn is an educational technology *system* designed for informal learners and over the past five years, it has attracted over 20 million unique visitors, 200,000 of whom have registered on the site and 1,000 of whom sign up monthly for formal study. While the take up and impact has been considerable, there is unfortunately no current means of measuring the extent or depth of learning by non-registering and other informal learners (Lane, 2012).

With the advent of Web 2.0, not only can informal learners self-educate but also contribute to learning with others who share educational, intellectual, social or demographic commonalities. In the case of the non-profit Peer to Peer University (P2PU) volunteer course organisers submit their ideas and seek guidance from experts and community members to create open source wiki-type materials and learner support systems. In the Australia-based digital version of the international University of the Third Age, U3A Online, retirees with ICT skills and specialised knowledge and interests create courses for other older learners anywhere in the world. With increasing lifelong learning expectations, the demand for such forms of informal learning from those towards the end of the lifelong learning continuum seems likely to increase (Swindell, 2002).

Non-formal Education

Non-formal education takes many forms: part-time 'second chance education' for those unable to benefit from regular classes; youth clubs with substantial educational purposes; adult and continuing education; community education; personal development programmes such as cultural, language, fitness and sports programmes; and professional and vocational programmes for the unemployed and upgrading workforces. In the developing world, the author (Latchem, 2010) found that non-formal education included:

- Literacy, numeracy and basic education for adults, out-of-school youth and school dropouts.
- Youth group and social development.
- Community mobilisation and development.

- Gender issues.
- Knowledge and skills development in crop science, animal husbandry, fishing, forestry, nutrition, water supply and sanitation, family planning, childcare, healthcare, HIV/AIDS prevention, gender equity, public safety and justice, reconstruction and reconciliation, computing and environmental, ecological and conservation issues.
- Small-scale business and local enterprise skills development.
- Inclusive education for those with special needs who are currently excluded, enabling them to become valued, contributing members of their communities.
- Information about democracy, human and civil rights and constitutional and voting systems.

Some governments establish departments that are explicitly responsible for non-formal education, adult education or lifelong learning, typically within the Ministries of Education, as in Mongolia. Some governments assign responsibility to other Ministries, for example in Malaysia, the Ministry of Women, Family and Community Development. Regional differences in patterns of provision can also be observed: basic education is the principal form of non-formal education in much of Latin America and the Caribbean (96%), sub-Saharan Africa (93%) and the Arab States (84%) while vocational and work-related education tend to dominate in Europe (89%) and Asia (83%) (UNESCO, 2009).

Continual investment in education and training is seen as essential for upgrading the skills of an ever-larger segment of the world's population in response to the growth of globalisation, broader markets and new technologies. Overall, within the OECD countries, over 40% of adults participate in formal and/or non-formal education in any given year. However, participation ranges from over 60% in New Zealand and Sweden to less than 15% in Greece and Hungary. On average, individuals in these countries can expect to receive 988 hours of non-formal education during the course their working lives, 715 hours of which will be job-related. Adults with higher levels of education are more likely to participate in, and receive up to three times as many hours of, non-formal education than those with lower levels of attainment and so there is still great need to make non-formal education more accessible for people of all ages and particularly the information- and assistance-deprived (OECD, 2011).

The limited non-formal education provision in developing nations is of particular concern. Surveying 28 developing countries, the Education and Policy Center (2008) applied four measures: the extent of non-formal attendance and non-formal attainment; the impact of non-formal education; gender and urban/rural distribution: and the relation of non-formal education to household income. Only in Burundi, Chad, the Gambia, Guinea-Bissau, Myanmar, Niger, and Senegal was the score above 5% in one or more of these four measures. In 6 other countries, non-formal education levels were between 1-5% in at least one measure, and in the remaining 15 countries, less than 1% by all measures. It is shown that the poor and least educated in the developing economies are likely to be discouraged and prevented by institutional/organisational barriers, situational barriers (such as insufficient time or resources for study, location and factors related to linguistic and ethnic minority status) and dispositional barriers (psychological factors which impede their participation) (UNESCO, 2009).

Non-formal education is provided by public institutions, public-private partnerships, employers, trade unions, media organisations, civic social groups, NGOs and international agencies. Kahler (2000) found that it was NGOs, sometimes working in parallel or collaboration with government agencies, who with their flexibility and ability to intervene in a timely fashion were at the forefront of innovation in non-formal education for community development, health education, enterprise development, agriculture and environmental education. He stressed the need for trust and cross-sectoral collaboration in addressing the complexities of community-based education programmes in areas such as water and sanitation, pest management and reproductive health. He also advocated a human resource development approach and involving the beneficiaries in experiential learning so that they felt that they had ownership of the developmental process, grew in self-confidence and mastered the knowledge and skills needed to do the job. He also observed the importance of ensuring quality in the learning methods and materials. He concluded that all of these measures demanded significant investments in staff, time and resources.

Non-formal Education and Educational Technology

While not all open and distance development projects require ICT, the World Bank (2012) observes that the opportunities for fulfilling the promise of ICT for development has now grown enormously, given that 5 billion people in developing countries use mobile phones, and the number of Internet users has risen 10-fold, Facebook has more than 800 million users worldwide, and Twitter handles more than 1.6 billion searches a day. In such an inter-connected world, it should be much easier and economical to help people learn how best to farm and fish, where their best markets are, how to start and improve their small

enterprises and how to make their voices heard and trigger change, for example, by reporting illegal logging, violence against women and corruptive practices, and to maximise human capacity in disadvantaged, remote and rural communities, and among women and the disabled. To these ends, the World Bank is committed to supporting:

- *Transformation:* integrating innovations into service delivery and accountability processes and carrying out associated policy and institutional reforms.
- *Innovation:* supporting grassroots technology entrepreneurship and public-private programmes aimed at developing ICT skills and promoting innovation.
- *Connection:* policy reforms and investments to achieve greater access to ICT services in higher risk countries.

Reviewing non-formal education in developing countries, Foster (2011) observes a move from top-down provision to collaborating with local communities in the development and dissemination of new knowledge, skills and methods and the use of a bricolage of social constructivist, connectivist, constructionist and ICT-basedlearning to help realise the 21st-century ambition of 'knowledge societies.' An example of this is shown in the Commonwealth of Learning's Lifelong Learning for Farmers (L3F). This programme helps small-scale farmers in southern India, Sri Lanka, Jamaica, Kenya, Mauritius and Papua New Guinea value-add their farming and make more sustainable use of natural resources.

Daniel and Alluri (2006) explain that a fundamental principle for L3F is the avoidance of top-down planning and unidirectional communication. L3F involves:

- Inviting farmers to form associations and realise their own visions of development for their communities.
- Identifying and training local leaders within these farming communities.
- Gaining the support of agencies with expertise in agriculture, veterinary science, open learning and technology in providing the content and support where needed and verifying the farmers' practices.
- Persuading local telecom providers that providing the farmers with cheap or free mobile phones to access the courseware and market and weather information will produce increased business in the longer term.
- Persuading commercial banks to provide loans on favourable terms to farmers who can demonstrate their improved knowledge, capacity and productivity.
- Using mobiles for training purposes and for training farmers to develop their own digital images and voice recordings to persuade others of the merits of their newly-acquired farming methods in ways that circumvent the problems of illiteracy and make it easy to translate material into other languages and dialects and change, extend and update content.

Evaluations of L3F by Speirs, (2008), Spaven, (2009), Thamizoli et al. (2011) and others show that the outcomes include more profitable farming enterprises, greater market awareness, more enterprise development by women, significantly improved assets, income and household infrastructure, higher levels of empowerment and stronger cognitive social capital. L3F has also been shown to be capable of replication and adaptation in other countries and contexts. With its culturally appropriate methods and applications of ICT, its synoptic and collaborative approach and its capacity to achieve significant and replicable outcomes, this programme serves as an example of the more broadly defined educational technology systems that are called for in learning for development.

To make optimal use of the available knowledge and experience and build capacity in developing countries non-formal education can involve cross-border collaboration. In the Cherie Blair Foundation for Women's Mentoring Women in Business Programme, business professionals and entrepreneurs around the globe mentor women who are establishing small-to-medium enterprises (SMEs) in developing economies such as China, Kenya, Malaysia, Rwanda, Pakistan and the Philippines. In the year-long, fortnightly, one-hour sessions, these mentors use Skype, 3G-enabled smartphones or tablets to help these emergent female entrepreneurs develop their knowledge and skills in business and technology. They brainstorm and collaborate, combining their experiences and insights to achieve mutual progress. This programme is found to be having a positive impact on these aspiring entrepreneurs' abilities in English, using ICT, developing their enterprises and accessing new markets.

The 32-nation Virtual University of the Small States of the Commonwealth (VUSSC), which is co-ordinated by the Commonwealth of Learning and collaboratively developing and delivering OER in tourism, entrepreneurship, professional development, disaster management and a range of technical and vocational subjects, not only makes its courses available for formal, accredited study but to private and other organisations for non-credit study for employment and job creation and, in the case of its disaster management materials, to NGOs training relief/first response workers in Guyana and other countries.

Another possible cross-border collaborative model is suggested by a development arising from Sugata Mitra's experiments with 6-12 year olds using 'hole in the wall' computers and learning in Self Organised Learning Environments (SOLEs) in India, Cambodia and several African countries. Reflecting on what children can learn on their own from the Internet and the fact that there are still many children in the world who, for whatever reason, cannot receive an adequate education, Mitra began to wonder whether there were people in the world who would be willing to voluntarily mediate in children's learning for one hour a week and, thus, provide an alternative form of schooling. There is now a self-organised cloud of e-mediators, known as the 'Granny Cloud' because they are retired teachers who have volunteered to engage in a project supported by the School of Education, Communication and Language Sciences at Newcastle University. Several hundred 'grannies' interact in weekly one-hour sessions with children in India and Columbia in what is called a Self Organised Mediation Environment (SOME). They read stories to the children talk about matters of mutual interest and provide encouragement and praise in developing these children's English language abilities. The e-mediators also encourage and advise each other by means of Facebook and a wiki (Mitra & Kulkarni, no date; Wakefield, 2012). This work is still essentially at the pilot stage and while it is cheap it has not been without its challenges and setbacks, technologically and culturally, but such an initiative serves as a reminder that there still many exciting possibilities waiting to be explored.

Evaluation and Quality Assurance

This overview has illustrated some exciting and worthwhile developments and indicated that there is great potential in informal learning and non-formal education for development. However, as Sinclair (2002) observes, sustainability is an important consideration, so it is important to prove that programmes can endure and serve similar needs in other contexts. Unfortunately, there is so little rigorous reporting in this sector that it is difficult to prove what works well and some of findings are far from encouraging. Quality is another issue to be considered.

There have long been concerns over the status, lack of evaluation, quality of the outcomes and limited impact on social and economic development in open and distance non-formal education programmes (Dodds, 1996; Spronk, 1999; Perraton, 2000). Batchelor et al (2003) noted the widespread hope within the international development community that harnessing ICT to non-formal education would be a powerful means of development and achieving the Millennium Development Goals. However evaluating several years' worth of World Bank infoDev programmes, they found that the programme proposals and plans were ambitious in scope but imprecise in their measures of success and by the time they filtered down to the local provider and community levels, the concepts and expectations were neither well understood nor consistently implemented and monitored. As a consequence, the analysts and decision makers were struggling to make sense of the mixed experience in order to justify major policy or investment decisions and the sponsors were growing uneasy about the programmes' value. Meta-analyses of ICT-supported non-formal education projects in Asia for Canada's IDRC-CDRI (Baggaley, 2004) and the Japanese Funds-in Trust / UNESCO (Kobayashi et al., 2005) revealed that many of these programmes lacked performance indicators, many providers lacked training in research and evaluation, and many local practitioners were reluctant to report on what was occurring on the ground. When the Office of Inspector General (2010) audited the multi-million dollar USAID/Philippines Education Quality and Access for Learning and Livelihood Skills Programme (EQuALLS) which was intended to rectify disparities in education access and quality in areas of the Philippines affected by conflict and poverty, it was found that the programme had achieved variable success, the targets had not been clearly defined, that key documents were not in order, some reports were unreliable and inconsistent with the performance indicator definitions, oversight of the programme's partners was weak, and potential corruption was going unreported. UNICEF's (2009) evaluation of the UNICEF 2004-2009 Education in Emergencies and Post-crisis Transition (EEPCT) programme in Angola, Colombia, Côte d'Ivoire, Liberia, the Philippines and Sri Lanka, found a lack of evidence on the outcomes and impacts of the various interventions, considerable gaps between the evidence base of the evaluations and UNICEF's expectations of the programme and the need for a stronger quality assurance. Drawing on such evidence as he could find of programmes designed to bridge the educational and digital divide, Kenny (2006) ended up questioning the advisability of channelling scarce funds into ICT in developing countries when they are confronted such basic challenges in education, health, and infrastructure. So there is great need for accountability, quality assurance, measuring benefits in terms of outputs, outcomes and impacts and substantiating the claims that open and distance non-formal education fosters development and represents value for money (Latchem, 2012).

Such data are essential to convince:

- Policy makers, to help them visualise, prioritise, plan and budget for such programmes.
- Sponsors, governments and other agencies of the responsible and effective use of their funding and support.
- All other stakeholders who stand to gain from these programmes and desire the non-formal education sector to receive greater recognition and support.

Conclusion

Informal learning and non-formal education have a great potential for helping a wide range of learners achieve more desirable and rewarding circumstances for themselves and their communities. However, the conclusions to be drawn from this paper are that:

- Developments and issues in these two important modes of provision are insufficiently represented in the literature of open and distance learning.
- More needs to be done to indicate the ways in which these two modes serve the needs of learners and society so that they can take their rightful place alongside the formal systems of education.
- Research and evaluation are needed in regard to the design, development, application and evaluation of systems, methods, ICT, mass media and traditional forms of communication for learning for development, including cultural factors, inter-institutional, inter-sector and cross-border collaboration, change management, costing, quality assurance and professional development.
- There is need for greater understanding of how to enable the transition from informal learning to non-formal and/or formal education.
- There is need and scope for new empirically-tested models and systems for successful and high impact learning for development.

In all of these regards the *Journal for Learning for Development* will play a key and highly influential role on the international stage.

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