

Open and distance lifelong non-formal learning for self-development: current practices and possible applications in Russian contexts

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Abstract

Non-formal and lifelong learning play a critical role in self-development and mastering the knowledge and skills demanded by an ever-changing world. This review examines the ways in which open and distance learning methods and technologies are being used to provide such non-formal learning in the developing countries to reduce inequality, provide education for all and ensure sustainable development. Having considered the main trends and possibilities in these contexts, it speculates on the possible applications of these methods and technologies in support of the social and economic development of Russian society.

Keywords: open learning; distance learning; non-formal learning; lifelong learning; socio-economic development; developing countries; Russian Federation.

Открытое и дистанционное неформальное обучение для саморазвития в течение всей жизни: современные практики и перспективы их использования в контексте Российской Федерации

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Аннотация

Непрерывное неформальное обучение играет очень важную роль в процессе саморазвития и наращивания знаний и навыков, требуемых в современном стремительно меняющемся мире. Данная статья рассматривает использование методов и технологий открытого и дистанционного образования для обеспечения неформального обучения в развивающихся странах в целях сокращения неравенства, развития доступности образования и стимулирования устойчивого социально-экономического и экологически безопасного развития. После рассмотрения основных тенденций статья обращается к размышлению о возможных перспективах использования существующих методов и технологий в целях поддержания социально-экономического развития Российской Федерации.

Ключевые слова: открытое образование; дистанционное образование; неформальное образование; непрерывное образование; социально-экономическое развитие; развивающиеся страны; Российская Федерация.

*“Learning is not a product of schooling
but the lifelong attempt to acquire it”.*

Albert Einstein (1879–1955)
Physicist & Nobel Laureate

Introduction

The Sustainable Development Goals (SDGs), officially known as Transforming Our World: the 2030 Agenda for Sustainable Development, is a set of 17 global goals with 169 targets spearheaded by the United Nations through a deliberative process involving its 193 Member States, including Russia (United Nations, 2015). The SDGs are a universal set of goals, targets and indicators that UN member states are expected to use in framing their agendas and political policies over the next 15 years. They are as follows:

- | | |
|--|---|
| 1. No poverty | 10. Reduced inequalities |
| 2. Zero hunger | 11. Sustainable cities and communities |
| 3. Good health and well-being | 12. Responsible consumption and production |
| 4. Quality education | 13. Climate action |
| 5. Gender equality | 14. Life below water |
| 6. Clean water and sanitation | 15. Life on land |
| 7. Affordable and clean energy | 16. Peace and justice – strong institutions |
| 8. Decent work and economic growth | 17. Partnerships for these goals |
| 9. Industry, innovation and infrastructure | |

In 2016, the Foreign Ministers of Russia, India and China reaffirmed their commitment to the SDGs as well as the Paris Agreement on Climate Change (Wahlén, 2016).

The providers of non-formal as well as formal education and training are seen as playing a critical role achieving in such transformative change by enabling all people, regardless of location or circumstances, to continually update, gain and apply new knowledge and skills through lifelong learning.

The world finds it difficult enough to fund its existing education systems, and escalating access to equitable and quality non-formal education (NFE) on the scale needed by conventional face-to-face means would cost many more billions if not trillions of dollars. However, with the growth of the Internet / Web, almost as many mobile-cellular subscriptions as there are people on earth and 95% of the population living in areas covered by a mobile-cellular signal, open and distance learning (ODL) offers unparalleled opportunities for more equitable, accessible, cost effective, quality and innovative forms of NFE across the globe.

However, for all the rhetoric about the importance of meeting SDGs and the great potential of using ODL NFE in developing countries¹, the research, theory and practices in this sector receive little mention in books or journals in the field such as the Russian Open and Distance Education (Открытое и дистанционное образование²). The focus is primarily on ODL in higher education, a sector to which only 6.7% of the world's 7.4 billion people has access (Barro and Lee, 2010). So many answers are still needed on how

¹ In May 2016 the World Bank abolished the ‘developed/developing country’ distinction which it considered no longer statistically useful since there is no commonly agreed-to definition of the term ‘developing country’ and it is the gaps within countries as well as between countries that statisticians and policy-makers need to attend to. However, this term is in general use in the literature.

² <http://journals.tsu.ru/ou/en/>

to use ODL NFE to develop the capacities and prospects of the other 93% of the world's people and achieve the SDGs.

The last comprehensive survey of the use of distance learning in non-formal education was by Dodds (1996). Twenty-one years later, the lead author of this paper undertook an extensive literature review of current applications of ODL NFE in the developing countries in order to identify and analyse trends, practices, possibilities and issues requiring further attention (Latchem, 2017). The first part of this paper is based upon this research. The second half considers how such forms of ODL NFE might be applicable in the context of lifelong learning and sustainable economic development in the Russian Federation.

Non-formal education

The Organization for Economic Co-operation and Development (2016) argues that both formal and non-formal education are critical to the goal of education for all. Formal education is provided by educational institutions, guided by a curriculum and accredited. NFE is typically provided by non-government organizations (NGOs), covers a wide range of educational initiatives in the community, and receives no formal recognition. In the developing countries, NFE is primarily concerned with the following issues:

- Literacy, post-literacy and English as a second language.
- Schooling for out-of-school children and under-educated youth.
- Gender equality and the empowerment of women and girls.
- Agricultural and agribusiness development.
- Healthcare, childcare, water, sanitation and hygiene.
- Small and medium-sized enterprise development.
- Education for the disabled, migrants, refugees, prisoners and other marginalized or disadvantaged groups.
- Environmental conservation and sustainable development.

To avoid NFE being looked upon as a low status activity leading to only dead end jobs, some countries are establishing national qualifications frameworks (NQFs) which recognize prior informal and non-formal learning, and learning pathways which allow learners to build knowledge progressively. And to increase access and equity, providers are also increasingly utilizing ODL, using radio, television, online and mobile learning – and blended learning which combines these means with face-to-face methods.

Latchem (op cit) found that the following media and methods were most commonly being used for non-formal education and training for children, youth and adults outside the structures and curricula of formal schools and colleges.

Radio

Radio is the world's most ubiquitous medium and primary source of news and information (Hendy, 2013). Radio sets are cheap, can be wind-up or solar powered and can be listened to anywhere. Programmes can now be live streamed and listened to as podcasts and on mobile devices and combined with telephony, can be interactive with listeners commenting on contributing to the content. The various genres – talk shows, interviews, panel discussions, documentaries, magazine programmes, dramas and quizzes – lend themselves readily to the provision of 'edu-tainment' – informing and educating mass audiences and changing community attitudes on such topics as health, hygiene, childcare, finance, community development, conservation and farming in developing countries. Local listener groups are formed, community representatives selected and trained as facilitators and the learners listen to live or recorded programmes, discuss the topics raised and how these relate to their own needs and experiences and consider what follow-up actions to take.

Evaluations show that such use of radio increases listeners' knowledge and achieves significant attitudinal and behavioural change. For example, farm radio, in which local broadcasters, farmers, farming organizations and extension agencies collaboratively promote and support agricultural development by means of talks, interviews and on-air and SMS discussions can have a major impact on opinions, understanding and practice. To give but one example, Perkins, Ward and Leclair (2012) claim that in Africa, radio stations broadcasting to a million farmers may lead 200,000 of these to adopt better farming practices at a cost of USD 0.05 per farmer, compared to USD 4 – 360 using traditional extension methods and by archiving, updating, repeating and sharing programmes with other broadcasters the production costs can be even lower.

Audiences' interest can be captured by the use of such 'edu-tainment' programmes as radio 'soap operas'. These have proved to be highly successful in educating mass audiences and changing social attitudes and behaviours in a number of South American, Asian and African countries. The use of serialization enables audiences to form emotional ties with the characters, suspenseful plots to evolve, and problems and solutions regarding such issues as family planning, health, HIV/AIDS, drug abuse, the status of women and girls in society, financial management and environmental protection to be entertainingly and convincingly explored (Barker, 2007).

In many societies the younger generation feels neglected, misrepresented by the mainstream media and left out of public debate on the issues that will affect their futures. In countries ranging from Bolivia to Bangladesh, steps have been taken to remedy this situation by establishing youth radio stations or programmes in which young people can conduct or take part in interviews, express their needs, concerns and opinions to their own age groups and a wider audience, and share information on the realities of local life (UNESCO, 2013). In the developing world, education remains an inaccessible right for millions of children. More than 72 million children of primary education age are not able to attend school. To assure children's right to education, radio has also been used to provide programmes for children of primary school age when violence has led to the closure of their schools in such conflict regions as Sudan, Somalia and Palestine (UNRWA, 2012).

Television

Many millions of non- or semi-literates in developing countries will live out their lives in Internet- and print-scarce environments. But many of these have regular access to television. So it too can play an important role in NFE as a motivator, teacher and shaper of attitudes and provider of edutainment (Palmer, 1999). Again, digitization is causing television to undergo profound change. Viewers can now access satellite and cable TV and video-on-demand which offer them greater choice of content and control over their viewing.

Television too can make effective use of the soap opera genre. In Kenya, the weekly Makutano Junction attracts over 10 million viewers per episode with storylines dealing with such issues as early marriage, conflict resolution, children's education, women's empowerment, agribusiness and entrepreneurship. Thousands of viewers also use SMS to question the experts and be further advised on the issues raised (MEDIAE.org, 2014). Another weekly Kenyan television show, Shamba Shape-up, which also attracts large audiences in Uganda and Tanzania, takes the form of a 'make-over show' in which experts visit struggling farms to help struggling small-scale farmers with pest management, irrigation, cattle rearing, poultry keeping, and other techniques in an engaging yet informative way (Wills, 2014).

In India, Prime Minister Modi was responsible for the establishment of DD Kisan, a television channel totally dedicated to farming. Launching this service, he declared

that for the country to move forward, the villages must progress, and for the villages to progress, it was essential for agriculture to improve. In all of the states and over all of the cable services, DD Kisan broadcasts daily news on government policies on agriculture, crop conditions, commodity prices, market trends weather conditions and live interactive programmes, discussions and quiz programmes on agricultural topics, interspersed with information-cum-entertainment programmes (Daily Post, 2016). There are also free apps for DD Kisan so its live-streamed programmes can be watched by all farmers with mobiles (Mukherjee, 2016).

Where there are appropriate and popular television dramas or documentaries, another approach is to develop around' courses in print or online offering further content, learning activities and self-tests. Subtitling can be an effective means of using television to learn to read or master a second language. For example, 'Same Language Subtitling (SLS)' in India, in which groups of illiterates or semi-literates sing popular songs using the subtitled lyrics in 'Bollywood' movies has had enormous impact on literacy rates, particularly in women who are greatly attracted to the song-and-dance numbers (Banks, 2012).

Online and mobile learning

With the developing countries now accounting for the vast majority of Internet users (ITU, 2016), ODL NFE is increasingly using online and particularly mobile learning to provide multimedia communications, convenient, bite-sized lessons and immediate access and learner support. Some 3.9 billion people remain cut-off from the vast resources online, due to problems of access, cost, and gender inequalities in ICT access (Hilbert, 2011) but the digital technologies are spreading rapidly. And their storage, retrieval, transmission and processing capacities are developing expeditiously, their motivational and multi-media presentational capacities are far superior to those of the older media, and their interactive capacities offer unprecedented teacher-learner and learner-learner interaction, so they are bound to play a growing role in ODL NFE.

ITU also reveals that 95% of the global population now live in areas covered by a mobile-cellular network and so NFE providers in developing countries are increasingly making use of mobile learning or m-learning. Not only is this vastly more convenient for learners but unlike the introduction of computing, the tools for learning – mobiles and tablets – are already in the hands of many (Edmonds, 2015). This particularly the case with the younger generation, who are well versed using these devices to access information, communicate and collaborate with their peers, take photos and create videos, all which skills are required for m-learning (Mellor and Seddon, 2013).

OER and MOOCs

ODL NFE is also making increasing use of open education resources (OER) and Massive Open Online Courses (MOOCs). OER are course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials designed for use in teaching and learning that are openly available for use by educators and students, without an accompanying need to pay royalties or licence fees. They save costs, avoid unnecessary duplication and have great potential to support educational transformation (Butcher, 2015). One organization supporting the global movement towards such collaborative development and sharing of digital learning materials is the Commonwealth of Learning (COL)¹. The COL Oasis Repository² currently includes OER from institutions in Kenya,

¹ <https://www.col.org/>

² <http://oasis.col.org/handle/11599/2402>

Botswana, Namibia, Bangladesh, India and the Pacific and on topics ranging from horticulture to mobile phone repair.

Critics of MOOCs express concern that they largely originate from Western universities and are in English language. To counter this, UNESCO and COL have co-developed a guide for policy-makers and providers in developing countries on how to develop and use MOOCs in ways that accord with local needs and circumstances and use open source technology (Patru and Balaji, 2016). COL and the Indian Institute of Technology Kanpur have also collaboratively developed two MOOCs on the subject of producing indigenous MOOCs and with the country's state agricultural universities and extension services, have developed an agMOOCs¹ platform providing free access to online courses on agriculture. Working with the University of the South Pacific, UNESCO and Japanese Funds-in Trust COL has also developed a MOOC on 'Climate Change in the Pacific', which has attracted a large number of participants and achieved high learner engagement and completion rates (Commonwealth of Learning, 2015).

Telecentres

To help communities in rural and remote areas unable to access or afford ICT services, governments in countries such as the Philippines, Bangladesh, Rwanda and Sri Lanka and NGOs are establishing telecentre networks offering online information, educational and training services. Global support for such initiatives is also provided by the non-profit Telecentre.org Foundation (TCF)² in regional telecentre networks in the Asia-Pacific, Middle East, North Africa, sub-Saharan Africa, Europe, Eurasia, Latin America and the Caribbean. Two of its operations are the Telecentre Academy, a global platform of certified ICT education and training for individuals and communities and Telecentre Women, a programme for developing women's digital and e-business skills.

Other innovative measures are being applied to bringing ODL NFE to rural and remote areas lacking reliable power supply or Internet connection. In the rural areas of Ghana, Nigeria, Zimbabwe, Zubaboxes are being installed; all-in-one, solar-powered, internet-enabled IT classrooms equipped with reconditioned computers housed in a converted shipping containers (Energy Matters, 2011). In flood-prone regions of Bangladesh, river boats equipped with solar power, wireless internet access, computers, mobile phones and library facilities act as floating schools / adult training centres for the isolated villages, a model now also being used and having an equally transformative effect in Cambodia, Nigeria, the Philippines, Viet Nam and Zambia (Rezwan, 2015). In Maharashtra and Karnataka in India, the Mann Deshi Foundation uses ICT-equipped buses to take education to thousands of poorly educated women in rural areas, enabling them to take courses in ICT, English language, business, agribusiness and other livelihood skills, shake off the shackles of poverty, and become more financially independent (Subramanian, 2012).

Possible roles for ODL NFE in Russia

Let us now turn to the areas of need and potential for ODL NFE in Russian contexts. The Chief Advisor of the Head of the Analytical Centre Leonid Grigoriev characterises Russia as a country positioned between developed and developing status with its main route to economic progress lying in modernization and full utilization of its human capital (Analytical Centre for the Government of the Russian Federation, 2014). However, examining the Russian non-formal educational system in times of dramatic socio-economic change, Veits, Khokhlova and Kozlovskiy (2010) conclude that integration of

¹ <https://www.agmoocs.in/>

² www.telecentre.org

this sector into the national educational system and its possibilities in the promotion of social inclusion are currently at the periphery of discussions and planning for the future.

In the formal sector, despite interregional differences in the quality of education, Russia is successful by global standards in providing high-quality education to all social groups. And while IndexMundi (2016) and other official sources identify a problem of illiteracy among prisoners and the increasing number of refugees, migrants and homeless children, the literacy rate is 99.7%, which is higher than in most Western European countries. So NFE in Russia is not a case of taking remedial action because of deficiencies in formal education as is the case in the developing world, but helping to provide lifelong learning for a sustainable future in line with the 17 SDGs.

According to Dremina, Davydova and Kopnov (2016), Russia has a long history of lifelong learning which comprises:

- The traditional approach, in which lifelong learning is regarded as providing knowledge and skills updates in response to technological advancement, etc.
- A lifelong, lifewide learning approach, in which learning is considered integral to human nature.
- A comprehensive development approach, under which the full development of the individual is pursued, addressing his or her biological, social, cultural and spiritual needs and potential.

They observe lifelong learning in Russia progressing from lectures to individualized learning; from academic content to workplace learning; from conventional learning to problem-based education and team-based learning; and from fulltime study to part-time and distance education.

Russia also has a long and well-established system of distance education (Zawacki-Richter and Kourotchkina, 2012). In late 2015, Internet penetration exceeded 70%, with 84 million Russians using the Internet, 50 million of whom doing so through their mobile phones or tablets and the regions are slowly catching up with the larger cities thanks in large part to mobile accessibility and the lower costs of mobile connectivity (East-West Digital News, 2016). OER are being widely used in schools and universities and Russian providers¹ are offering hundreds of MOOCs on such topics as business, economics, human resource management, occupational safety, healthcare, farming, IT, English and the STEM subjects which are attracting hundreds of thousands of non-formal learners. Coursera and Edx courses are also popular despite mostly being in English language. Radio and television provide informal education on the arts, gardening, health, cooking, sports and language learning, and podcasting provides informal education in such subjects as history, culture, linguistics, philosophy, art, sports, computer games, gardening and health. So the tools and infrastructure for ODL NFE are already in place. The question is, where does the evidence suggest they might be usefully employed?

The remainder of this paper examines the case for using ODL NFE to help all Russian people regardless of their socio-economic status and location to learn and apply knowledge throughout their lives and in accord with the SDGs. In particular, it focuses on six areas of identified need: small to medium enterprise development; agricultural development; healthcare; the elderly; prisoners; and sustainable development.

¹ For example:

<http://universarium.org/>
<http://www.businesslearning.ru>
<http://www.intuit.ru/>
<https://openedu.ru/>
<http://arzasmas.academy>
<https://www.lektorium.tv>

SMEs

Micro-enterprises and small and medium-sized enterprises (SMEs) are a heterogeneous group but the most common businesses in most of the world's economies. They are seen as crucial to achieving sustainable economic growth. The World Bank in Russia (2016) observes that SMEs currently account for only 20% of the Russian GDP and 25% of employment, whereas in many other countries these exceed 50%. Those starting up, managing and expanding small businesses face many challenges. They need to attract, train and retain the right employees and be knowledgeable and skilled in business planning, risk management, and managing operations, finances, products and clients. They face continual change in technology and work practices, but unlike those in the larger firms, they and their employees cannot afford time off work for training and retraining and so this is one area where ODL NFE can play an important role.

This need for more training is being recognized by Russian providers such as the Sberbank Corporate University¹, which with the support of Google has recently introduced the free and extremely popular Business Class² online programme for those interested in or already running SMEs. A number of international organizations are also providing online programmes for those establishing and running SMEs. These include Youth Business International³, the International Labour Organization (ILO) with its 'Know About Business'⁴ training packages and 'Start and Improve Your Business'⁵ programme and the International Finance Corporation and IBM with their SME Toolkit⁶, whose programmes are attracting many millions of users around the globe.

Female entrepreneurs regard Russian workplaces as generally free from sexism and since 2007, the number of companies founded by women has grown by 350%, compared to 65% for companies founded by men. Today, some 55% of Russian businesses are run by women. However, these are predominantly small businesses with limited access to capital. So there is still need to promote women's leadership, help women entrepreneurs with their start-ups, and improve their access to finance (Lepeska, 2016). AFI (2017) reports that only a few countries include access to finance for women within their national strategies.

A number of organizations across the globe are providing courses specifically designed to promote women's entrepreneurship, which is in itself a form of activism. The Goldman Sachs '10,000 Women'⁷ provides women around the world with business management training, mentoring, networking and access to capital. The ILO's 'Small and Medium Enterprises Unit's Women's Entrepreneurship Development' programme⁸ helps tens of thousands of women in Africa, the Arab states, the Asia-Pacific, Central Asia, the Caucasus and Latin America to start and grow their own businesses. And the UK-based Cherie Blair Foundation for Women's 'Mentoring Women in Business Programme'⁹ partners women establishing SMEs in developing countries with successful women entrepreneurs who mentor them one-on-one by means as Skype for a year, helping them develop knowledge and skills in business, finance, ICT and English.

¹ <https://sberbank-university.ru/en/approach/>

² Бизнес класс, <http://business-class.pro/>

³ <http://www.youthbusiness.org/>

⁴ http://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_159163.pdf

⁵ <http://www.ilo.org/empent/areas/start-and-improve-your-business/lang-en/index.htm>

⁶ <http://www.smetoolkit.org/smetoolkit/en>

⁷ http://www.goldmansachs.com/citizenship/10000women/index.html?cid=PS_01_08_07_00_00_00_01&mkwid=SEXqQIrP

⁸ <http://www.ilo.org/empent/areas/womens-entrepreneurship-development-wed/lang-en/index.htm>

⁹ <http://www.cherieblairfoundation.org/>

Agriculture

Agriculture is Russia's second-biggest export after oil and gas, the country is a major producer of fish from wild fisheries and aquaculture and the timber industry is also a significant contributor to the economy. But there is always need for increased food security, value-adding and sustainable practices, all of which call for more knowledge sharing within the sector. Researchers such as Ivanova (2012) report that farmers need advice and training but cannot afford the costs while the extension services cannot cope with the demand.

Agricultural communities tend to be conservative and resistant to advice from external experts. Reviewing ODL NFE for transformative change, Foster (2011) argues that involving local communities in the development and dissemination of new knowledge, skills and methods is far more likely to achieve sustainable change because this empowers the communities, makes them feel that the programmes belong to them, and accord with their cultural norms. As shown earlier, participate forms of farm radio can be an effective means of achieving change in farming communities.

Another method found to be effective is placing digital cameras and mobile phones in the hands of farmers and training them in making short audio-visual programmes highlighting on issues demonstrating successful practices to teach other farmers. This approach has been used in farming communities in sub-Saharan Africa to record the local impacts of climate change, let the unfiltered, previously unheard or disregarded voices of farmers struggling against environmental change to be heard and then screen these videos to discussion groups in the local villages and upload them onto YouTube (Asadullah, 2012). Using such methods, DigitalGREEN¹ finds that farmers are far more willing to learn about and adopt new practices because the information and ideas come from other farmers facing the same constraints rather than external experts.

M-learning is another means of sharing best practice. The Commonwealth of Learning's Lifelong Learning for Farmers (L3F) involves multi-stakeholder knowledge sharing by thousands of African, Asian and Caribbean farmers and extension agencies, telecom providers and banks using such means. Leaders are identified within the local farming communities and trained to help establish farming associations and identify development needs. Deals are struck with telecoms to equip the participating farmers with mobiles on the grounds that this will eventuate in increased business and with banks to ensure that farmers who can evidence improved knowledge and productivity after training will receive loans on favourable terms. The farmers, many of whom are women and illiterate, are trained using a mix of m-learning and face-to-face classes. The participants are also taught how to take photographs with their mobiles, create simple graphics and record short voice-overs so that they in turn can create m-learning modules to teach other farmers about their newly-acquired methods. In one project, the women farmers also received training in how establish a co-operative enterprise which they then preceded to successfully implement. The benefits of L3F have been dramatic, both in terms of income and productivity for the farmers and higher returns to the banks and telecoms. L3F has attracted the interest of other governments, international agencies and the private sector and is set for expansion with the focus on sustainable development.

Healthcare

The Ministry of Healthcare plans for all medical staff in Russia to be engaged in life-long professional development by 2021. With such a vast country and low population density, there is a great potential for extending reach and reducing costs in mounting

¹ <https://www.digitalgreen.org/>

educational and awareness campaigns on health prevention and treatment through ODL NFE (Koshelev, 2010).

Russia's universities are developing courses and materials for continuing professional development (CPD) but currently many medical personnel are not taking advantage of these because of the cost and limited time and lack of technical skills and support (Petrova, 2015). With the ever-growing use of mobiles, mobile health apps that can be uploaded onto smartphones or tablets, mobile-enabled patient portals and telemedicine there are enormous opportunities for ODL NFE for laypersons and patients as well healthcare professionals. SMS and voice messages and short multimedia sequences on preventive healthcare, health management and fitness and lifestyle education can provide an essential lifeline for remote and otherwise disadvantaged communities.

There are many serious health problems to be addressed, including smoking and alcohol consumption. About 43% of Russians are smokers and the health ministry is considering a permanent ban on selling cigarettes to people born in 2014 or later as part of a tough anti-tobacco strategy. Zaigraev (2009) estimates that around 3.4% of the population is alcohol addicted and that there are 90-100,000 alcohol-related deaths a year, and Regentova (2012) reports that 8-15 % of children in orphanages in Moscow and Murmansk are diagnosed as having PAS (prenatal alcohol syndrome). Balashova et al. (2012) report that most women are unaware of the alcohol effects on fetuses and Zaigraev (2009) sees urgent need for community information and education on this issue. Nechayeva and Eismont (2012) report that 6.9% of all deaths among 18-44 year olds are due to HIV/Aids and yet when surveying Muscovites Belyaeva et al. (2015) found that many people, particularly those under twenty, were ill-informed on the transmission and prevention of this disease. Tuberculosis also poses yet another serious public healthcare challenge.

According to WHO (2013), 56.2% of Russian men and 62.8% of Russian women are overweight and 26.5% of adult males and 32.9% of adult females are obese and by 2020, 31% of men and 26% of women will be obese. Obese people spend twice as much on medical support as people of normal weight and in Russia, about 44% of type II diabetes cases, 20% of ischemic heart disease cases and up to 40% of certain cancer cases are obesity linked. In 2014, the cost of treating these three illnesses was 360 billion roubles, or 70% of medical budget (Ruvinsky, 2016). So again there is need for ODL NFE on healthy eating and exercise.

Russia also has a poor record in occupational health and safety (OHS). Onishchenko (2009) reports that mortality rates among people of working age due to work related accidents and intoxication are 2.5 times higher than in the developed countries and 1.5 times higher than in the developing countries. The most dangerous occupations are in coal-mining, ship building, the iron-and-steel industry, engineering and construction, agriculture and forestry. At the first All-Russian OSH Week, occupational safety and health practitioners and other experts agreed that there were low levels of OHS awareness and prevention and mitigation measures in workplaces and there was need for greater commitment to a culture of prevention in managers and workers (ISHN, 2015). Here again the various forms of ODL NFE discussed earlier in the paper could help to ensure that employees work in ways that are safe and without risks to their health.

The elderly

Mokroguz (2016) sees opportunities for NFE for senior citizens in a range of areas including health, gardening, computer literacy, foreign languages, finance and art. Russia could follow the example of the Australian U3A Online¹, a virtual version of the

¹ <https://www.u3aonline.org.au/home>

international University of the Third Age (U3A)¹ which uses a geragogic model of NFE in which retirees learn by drawing upon the knowledge and experience of others within their demographic. This online version provides short courses for older people who are in isolated areas, house-bound or in retirement homes or prefer to study where and when they choose and who have computers, Internet connection and basic computing skills.

Prisoners

As in most countries, recidivism rates are high in Russia (Gryaznov, 2015). One of the reasons for this is poor education in many of the prisoners (Trutneva, 2014). Studies by the Rand Corporation (2013) and others show that prisoners who receive education or vocational training in jail are significantly less likely to return to prison upon release and more likely to find employment². There is also need for HIV educational/prevention programmes to be as available in prisons as they are in community settings. Germany is the rare exception in providing prisoner education for between a half and three quarters of prisoners.

Some Russian prisons offer business courses for prisoners and Nizhny Novgorod Oblast is using ODL to educate prisoners (Gryaznov, 2015) but by definition, the internal structures of penal institutions are teaching and learning-unfriendly. The Internet might be an invaluable tool for educating and rehabilitating prisoners, as the use of mobile phones, in most prisons around the world, inmates are forbidden from communicating with the outside world due to security concerns. However, according to Stroevea (2013) radios and TVs are available in Russian prisons and the increasing availability of 'stand-alone' learning platforms and tablets hold promise for ODL NFE in prison. Another problem is the lack of personnel qualified to develop and deliver these courses. To address this problem in prisons in Central Asia, South America, North Africa and Europe, Deutscher Volkshochschul-Verband e. V., the German Adult Education Association³, establishes networks of Alternative Education Centres, located near to the prisons, which provide training and support for the teachers and modular and flexible courses in literacy, post-literacy, adult primary and secondary education and vocational training for the prisoners (Altamirano, 2014).

Sustainable development

The Russian Federation has adopted the UN-recommended figure of 0.7% of Gross National Income as its long-term target for international aid contributions and intensified its participation in global efforts to help solve famine, poverty, infectious diseases and other global issues. It also uses a number of indicators to monitor the progress of sustainable development in Russia, resolve the country's environmental problems, and reduce environmental threats to public health. And activists and educators are trying to keep the population educated on environmental issues.

Levchenko (2016) sees great need and opportunity for formal and non-formal education in support of action on SDG 11 which concerns making all human settlements and activities inclusive, safe, resilient and sustainable. Corcoran and Hollingshead (2014) also argue that there is great scope for inter-generational learning in this regard, with the present and future generations learning from each others' experiences, values and aspirations, discussing the ecological, social, cultural, and economic issues that confront them, and planning for what community actions to take.

¹ https://en.wikipedia.org/wiki/University_of_the_Third_Age

² So important does UNESCO consider the issue of education for prisoners that it has created a Chair in Applied Research for Education in Prisons.

³ <https://www.dvv-international.de/en/dvv-international/profile/>

Concluding observations

The paper has reported on extensive literature review of current applications of ODL NFE in the developing countries by Latchem (2017). It has also speculated on the possible applications of these methods and technologies in support of the social and economic development of Russian society. The main lessons to be derived from this paper are as follows:

1. There are some instructive, effective and in some cases, inspiring cases of ODL NFE applications in the developing countries which are deserving of wider dissemination.

2. The applications can be 'hi-tech', 'low tech' or 'no tech'. Some may involve 'blended learning', combining technology-based and face-to-face approaches. Others may use popular media genres such as soap operas, pop music and graphic novels to capture people's interest and open their minds to new ideas and life fulfilling opportunities.

3. All the indications are that as mobile telephony continues to grow and become the preferred way of accessing and delivering information, there will be steady shift towards mobile learning as a means of providing self-paced, on-demand, non-formal learning across multiple contexts for learners desirous of more flexible and interactive provision.

4. Whatever the methods and technology used, the effectiveness and impact of ODL NFE programmes depend upon the quality of the learning design, that is to say:

- the application of the theory and principles of adult learning (Knowles, 1986), the self-directed learning or andragogy (Merriam, 2001) and self-determined learning or heutagogy (Blaschke, 2012)

- the appropriateness of the means used to engage and hold the interest and engagement of the learners

- the scheduling, scaffolding and relevance of the content

- the use of the learners' intrinsic knowledge

- the extrinsic motivation embedded in the teaching and learning and

- the means of integrating the new knowledge into the real world (Merrill, 2002).

5. ODL NFE in support of lifelong learning requires systemic rather than ad hoc, one-off provision, and collaboration between government and non-government agencies and educational providers.

6. The development of National Qualifications Frameworks (NQF) within the perspective of lifelong learning is needed in order to permit portability, accessibility and transferability of credits, knowledge and abilities across qualification levels and across education and training and to recognize and accredit prior learning.

7. Research, evaluation and quality assurance are currently a weak point in the provision of ODL NFE, As with all other forms of ODL, as Zawacki-Richter and Anderson (2014) stress, such research and evaluation would need to be conducted at the:

- micro level (the teaching and learning, instructional design, etc.)

- meso level: (the management, organization, quality assurance, costs and benefits of provision)

- macro level: (the large-scale patterns in the processes, outcomes and impacts, theories and models used)

8. Since all of the suggested applications in the second part of the paper are based upon suppositions, further research would be necessary to test the hypotheses, ascertain the needs, cultural dimensions and costs of providing such ODL NFE, develop the theoretical insights and share quality practice.

9. ODL NFE is a rich and as yet largely unexplored source of enquiry for academics and postgraduate students interested in education and self-development seeking new and original fields to research.

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