THE ROLE OF INFORMATION LITERACY IN OVERCOMING OBSTACLES TO LEARNING AND LIFELONG LEARNING

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Abstract

Literacy is widely recognised as a fundamental human right, which empowers individuals and opens opportunities for social, economic and political integration. Information Literacy can be defined as knowing when and why one might need information, where to find it, and how to evaluate, use and communicate it in an ethical manner.

In this paper we argue that Information Literacy can help disadvantaged groups in both the developed and developing worlds improve their opportunities for developing their intellectual potential. We report on case studies and initiatives from the Information Literacy movements that are addressing these hurdles to learning. It will be argued that it is naïve and simplistic to suppose that a solely technological solution will enable the learners to surmount obstacles to learning in order to improve their life chances. What is required is a more holistic approach, which requires the construction of legal, cultural, and economic infrastructures.

Keywords: Information Literacy, Lifelong Learning, Obstacles to Learning.

1   INTRODUCTION

In the past it was expected that people would follow a career for life but in the last twenty years there has been a paradigm shift to a life of careers. The unprecedented growth of Information and Telecommunications Technologies, the globalisation of markets and the domination of individualistic and aggressive, individualistic cultures as opposed to loyalty to a single employer (as has largely been the case Japan) means that employees are constantly trying to upgrade their skills and are prepared to constantly move from employer to employer and from profession to profession. Thus they are constantly challenged to engage in continuous learning throughout their life. However, a large amount of the world population is facing insurmountable obstacles. They are indeed stopped from reaching their full potential.

Participation in learning tends to decline as age increases. An inspection of the wide variety of aspects of adult participation in learning reveals that there are generic barriers to learning. Among these impediments are issues concerning: gender, age, class, disability, poverty and deprivation. Examples of specific obstacles, amongst numerous others, include: a lack of positive role models and support at home; inadequate resourcing for supporting learners with learning difficulties and / or disabilities; stereotyping; and cultural and religious barriers, for example, cultural traditions, which may also prevent men and women from mingling.

Literacy is broadly recognised as a fundamental human right. The exercising of this entitlement empowers individuals and opens opportunities for social, economic and political integration. At the National Forum on Information Literacy the participants in the High Level Colloquium on Information Literacy and Lifelong Learning held at the Bibliotheca Alexandrina, Alexandria, Egypt on 6-9 November 2005 proclaimed information literacy as a fundamental basic human right in the digital world: "*Information literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion in all nations.*" [1].

Although the concept is not new, the basic premise behind *Lifelong Learning* can be succinctly and simply stated: it is that deliberate learning can and should occur throughout each person's lifetime [2]. The European Union Lifelong Learning Programme (EU LLP) was designed with a twofold intention: to enable people, at any stage of their life, to take part in stimulating learning experiences (Lifelong Learning) and in developing education and training across member states of the European Union.

The Internet has both an immediate and long term effect on the lives of those who use it. In the longer term, the Internet has significant palpable benefits for education, employment, and retirement. Research suggests that digitisation, and access to information, assists people at every stage of their lives. Some of the benefits [3] include:

- *Education:* Digital learning tools can play an important role in improving education outcomes, raising standards, and preparing students and for the world of work.
- *Employment:* Online job listings encourage job searching by the unemployed, and Internet-enabled flexible work situations allow people to retain jobs they would otherwise have to leave.
- *Later life:* Digitisation allows older people to stay connected to friends and family, and helps counter depression; remote online monitoring has been demonstrated to help improve health outcomes.

The inability to access information, to be information illiterate, severely handicaps an individual. Information literacy has a transformative power and when exercised can increase the quality of life of a person. However, there are barriers to learning and becoming information literate. There are vulnerable groups, in both developed and developing nations, who are subject to social disadvantage as a consequence of age and disability as well as other factors such as gender, low educational achievement, poverty and living in remote rural areas [4]. It is a false notion that solely technology, universal digitisation, high tech jobs and cutting edge science can pave the road to prosperity for people in such susceptible groups [5]. Thus what is required is an understanding of the socio economic forces at play; and the social issues concerning race, class, and gender that throw up/exasperate these obstacles to becoming literate.

2   INFORMATION LITERACY AND LIFELONG LEARNING

There is an intimate relationship that exists between information literacy and lifelong learning. In order to improve the quality of life of people, organisations and nation states in a global information society it is important that the link between these two aspects is acknowledged. Information literacy can be regarded as a set of skills that can be learnt via methods, techniques and tools, for example, online tutorials and group work respectively; whereas lifelong learning can be viewed as "a good habit that must be acquired and accompanied by the adoption of a positive frame of mind". Thus lifelong learning places pre conditions, i.e. a readiness to change and a curiosity or desire for knowledge [6]. Fig 1 illustrates the relationship between Information Literacy and Lifelong learning.
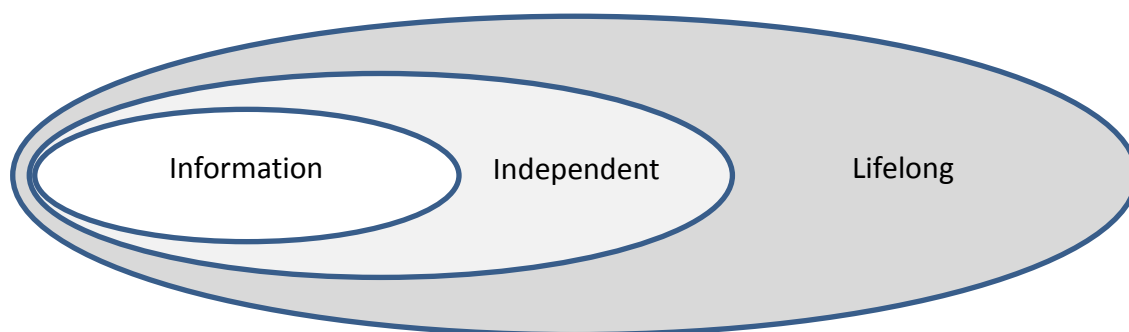

Fig 1: The relationship between Information Literacy and Lifelong Learning. (Adapted from [7])

Thus Information Literacy operates as a sub category of Independent Learning, which, in turn, is a sub set of Lifelong Learning [7].

Both information literacy and lifelong learning should be harnessed to "work symbiotically and synergistically with one another" thus allowing people and institutions to flourish [8]. In order to maximise the potential to learn, both information literacy and lifelong learning have to be pursued in parallel. The quality of life is improved through the connecting of the two for they permit:

- Self-motivation and self-direction (although advice and assistance could be sought from a teacher, it is not a prerequisite)

- Self-empowerment because individuals can help themselves, regardless of their age, social or economic status, role or place in society, gender, race, religion or ethnic background

- Self-actuation, because the individual is practising and sustaining the habits of information literacy, ideally over a lifetime, it will lead to greater self-enlightenment

The quality of life is also enhanced by substantially improving the individual's:

- Personal choices and options in the context of personal, family and societal matters.

- Access to formal and informal education and training in school and /or the workplace

- Finding and retaining a satisfying job and increased chances of job promotion in order to fulfil professional goals and aspirations

- Participation in social, cultural and political contexts, both at the local community level and at higher levels, and in identifying and fulfilling

It is important that both learners and teachers are aware of the *Quality of Life* as an important traditional moral and ethical concept that they can use in order to better understand the transformative power of Information Literacy on peoples' lives, especially those who are disempowered, those that are the information have-nots. By being informed and conscious of this issue information professionals can be inspired to fight the injustice that is faced by the disadvantaged groups in both the developed and developing worlds improve their lot.

2.1 Information literacy

For the majority of people who have access to education and modern technologies there is an enormous amount of information available. Finding, evaluating, criticising, selecting and using relevant, accurate and useful information has been termed as Information Literacy.

2.1.1 What is Information Literacy

The Chartered Institute of Library and Information Professionals (CILIP) define Information Literacy as "knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" [9]. The International Federation of Library Associations state the term Information Literacy is commonly used in the English speaking world to denominate information competencies that imply: the capacity to identify when information is needed, and the competence and skill to locate, evaluate and use information effectively [10].

In order to assist librarians and teachers to effectively deliver information skills to their learners, information literacy models can be adopted. Martin [11] reports on four UK models of Information Literacy:

- ANCIL (A New Curriculum for Information Literacy)
- SCONUL (Society of College, National and University Libraries) Seven Pillars of Information Literacy
- National Information Literacy Framework Scotland (Scottish framework)
- Information Literacy Framework for Wales (Welsh framework)

2.1.2 The SCONUL model

The SCONUL Working Group on Information Literacy introduced the Seven Pillars of Information Literacy Skills model. The model has been implemented by librarians and teachers in order to aid them to deliver information skills to their learners.

The seven pillars of the model are organised into the following concepts [12]:

1. Identity: Able to identify a personal need for information;
2. Scope: Can assess current knowledge and identify gaps;
3. Plan: Can construct strategies for locating information and data;
4. Gather: Can locate and access the information and data they need;
5. Evaluate: Can review the research process and compare and evaluate information and data;
6. Manage: Can organise information professionally and ethically; and

7. Present: Can apply the knowledge gained: presenting the results of their research, synthesising new and old information and data to create new knowledge and disseminating it in a variety of ways.

There are a multitude of alternative models of information literacy, including:

- Big 6 [13]: Task definition, Information seeking strategies, Location & access, Use of information, Synthesis and Evaluation
- Information Seeking [14]: Initiation, Selection, Formulation of focus, Exploration, Collection, Presentation and Assessment
- Empowering 8- NILIS [15]: Identify, Explore, Select, Organise, Create, Present, Assess and Apply

3 OBSTACLES TO LEARNING

The National Adult Learning Survey, carried out by the National Centre for Social Research on behalf of the Department of Education and Skills (DfES), UK points out variations in learning among different groups [16]. The salient disparities include:

- Participation in learning tends to decline as age increases
- Learning is strongly linked to educational background (the participation rate of those with no qualifications is substantially lower than those with NVQ Level 4 or 5 qualifications)
- The highest participation rates were among respondents in paid work (the economically inactive had lower participation rates i.e. those who were retired, those who were looking after a family and those who were unable to work due to a health problem or disability)
- Learning declined amongst those in the lowest income bracket (below £10,400) compared to those with an annual household income of £31,200 or more

These groups of people despite living in developed countries often with strong economies are not included or not keeping pace with technological developments and opportunities to learning. Numerous studies have been completed which flag the correlation between factors of: age, disability, gender, low educational achievement, poverty and living in remote rural areas; and (information) illiteracy [3] [17] [18] [19].

3.1 Barriers

In education and its wider context there exists "*cultures of silence*". What is required are to find ways of breaking that silence, and giving voice to the marginalized and to oppressed groups. '*This raises a paradox insofar as it confirms the negativity of a culture of silence. In some circumstances, the use of silence is in itself an exercise of power, and this is applicable to the classroom as well as to the wider community*' [20].

Numerous factors have bearing on the access of users to learning and digital information. Some of these factors go beyond just the technologies available to users and the skills they have for using them. Table 1, below summarises these barriers.

Table 1: Factors that have a bearing on the access of users to learning and digital information

Factors	Description
Low educational achievement	Learners may not have sufficient qualifications to access a specific course. Prior achievement or lack of achievement. May have Literacy or Numeracy difficulties. Association of education with school is also a recognised factor, for a return to classroom is often seen as an admission of past failures. Learners may feel that there is a stigma to admitting low levels of literacy. An employer may also see no benefit for themselves in training low skilled workers, thus serve as a barrier to learning [3] [17] [18] [19] [21].
Low self-esteem and a lack of confidence and motivation	Obstacles to developing these skills can be categorized as either internal or external. These attitudes are thus defined as internal. If individuals cannot see the benefits of learning they are not likely to access it [16] [21] [22].
Cost; transport difficulties; limited availability of courses; lack of access to facilities	External barriers are typically hurdles that prevent/limit access to opportunities. The cost of travelling to access training can be seen as a major barrier. Other costs can include: course registration fees, materials and impact on other finances, e.g. State benefits [21].
Uncertainty and past negative experiences	Learners can feel uncertain about the appropriateness of a course or uncertain whether they will enjoy it or not or previous negative experiences [21] [23].
Health and disability	Ill health can have a detrimental impact on attendance and achievement. Mental health issues, including depression, which is a recognized demotivator. Specific learning difficulties and/or disabilities can create barriers to learning where there are insufficient support mechanisms or inadequate resourcing. Poor building design may prevent access for some learners with specific disabilities. Learners can experience fatigue if they have specific learning difficulties and/or disabilities [3] [17] [18] [19] [21].
Age	Older adults may feel that they are too slow to learn skills or that there is no point as they are coming to an end in their working lives [21].
Gender	Typically women are bound by family responsibilities, including childcare and care for elderly relatives. There is often a lack of support at home, which does not permit time and flexibility. In addition, an absence of positive role models. Stereotyping and peer pressure further exacerbate the issue of gender as a barrier to learning [21] [22].
Class	Socio-economic differences result in well-established advantages enjoyed by middle-class children such as access to books and help with their homework, as well as access to technology. Low expectations by the education system but also by family (conditioned to accept their 'lot') perpetuate inequality [23].
Race	Racial discrimination in education refers to any harassment of students due to race, color, or national origin. Discrimination can happen at any age and can be caused by other students, teachers, administrators and other staff members. Teachers' low expectations and their impact on students are associated with broader social forces. Racial categories carry with them symbolic meaning, providing group members with enhanced legitimacy or reduced social status in the eyes of others [24] [25].
Culture and religion	Cultural and religious barriers: learners may fin d it more difficult to concentrate during a time of fasting, such as Ramadan. Cultural traditions may also prevent men and women from mingling. Cultural and religious stipulations, stereotyping and peer pressure further exasperate the issue of gender as a barrier to learning. A lack of language skills can also be a major hurdle to jump in order to access courses [21] [22].
Poorly designed programmes	The structure of courses ending with examinations can represent as a barrier for many learners. Boredom can also be a consequence from unstimulating teaching methods. Learning styles: learners who prefer active or practical methods of learning may not be able to access theory or traditional methods of teaching. Timetabling of classes for a programme may prevent shift workers from being able to access some/all classes due to their shift patterns [21] [27].
Status of teaching as a profession, remuneration, teaching qualifications and technical expertise of teaching and support staff	Teachers enjoy respect in many countries but even in advanced economies the status of teachers is not reflected in comparable remuneration [28]. Technical expertise and staff development inhibits professional advancement. Large classes do not allow for personalised attendance to issues resulting in learners' low achievement [21].

4   CASE STUDIES

There are numerous case studies and initiatives from the Information and Digital Literacy movements that are attempting to address these obstacles to learning and becoming information literate in both the developed and the developing country/nations.

4.1   RINGIDEA Project

Regional development of the information society and lifelong learning is a priority for the Western Balkans as they move towards an Information Society. The development of better IL skills contribute positively to regional cooperation, business environments and hence foreign and national investments for the creation of much needed jobs that will encourage individual initiatives and so add to an increase in the living standard of the whole population. RINGIDEA is a technology transfer project which enabled the identification of need and at the same time good practice in the region itself but also across the EU project partners and further afield. As a result the project developed IL policy, guidelines, clear specification of goals, mission and guidelines for developing IL programmes online and IL modules. A major contribution of the RINGIDEA project is the integration and harmonisation of the new IL programmes with those currently active (however embryonic) in Western Balkan countries.

The RINGIDEA project proposed new methods for IL delivery by harmonising cultural diversity. A set of new products (online modules, teaching materials, policy) were developed. Knowledge transfer can take place at all levels and the results can be used in new contexts or in other Western Balkan countries that can customise the results to suit their conditions. This project ensured visibility through dissemination, trainings and conferences. Media coverage of program objectives, outputs and outcomes have helped raise awareness of the wider social impact and the importance on perpetuating IL programs in Western Balkan countries. Mobility of librarians, teaching staffs and experts have opened a new door of opportunities where idea of implementation of lifelong through IL has been reviewed, analysed and recommended. There are opportunities to develop the project results in different contexts and situations (e.g. Western Balkan area, EU Member states), embedding project results into practices of other organisations, mainstreaming project results into local, regional national or European provision

4.2   British Computer Society

A recent survey of Human Resources professionals and employers revealed that 90% rate working a digital device as important to the majority of roles in their organisation [29]. The key findings of the survey showed that a vast majority of employers regarded digital skills to be an important requirement when employing people. Skills vital to the majority of roles in their organisation included: email skills, along with: Word processing, Spreadsheets and the ability to use Social media.

The British Computer Society (BCS) offer a range of IT qualifications that can assist learners to gain these skills, regardless of age and ability, in many instances, training costs are subsidised or even free. BCS IT user qualifications include [30]:

- Computer and Online Basics
- Digital skills: how to use digital media devices and online services
- ECDL (European Computer Driving License): how to use office based software
- e-type: learn how to touch-type and improve your keyboard speed in accuracy

Employers declared in the survey that they demanded that people have these skills to be productive straight away in a new role and believe digital skills improve employee efficiency and increase business productivity.

4.3   UK online centres

The UK online centres network is a small not-for-profit social enterprise based in Sheffield, UK. It comprises of 5,000 local centres, each helping people make the most of technology and widening digital inclusion among the most socially excluded in the UK [31]. In partnership with the Department for Business, Innovation and Skills and the Department for Work and Pensions, funding of centers, initiatives, campaigns and programmes is provided in the form of grants.

The "Give an Hour" campaign is a scheme aimed at getting people to pledge to give some of their time to help a non-internet user get online. Support is offered to those who are without access to the internet or lack the skills or confidence. This digital support programme pairs a volunteer with a non-internet user. Sessions may focus on tasks such as how to set up an email address and then send an email or how to search for jobs and then help them submit their curriculum vitae. Other similar schemes include:

- The Barclays Bank "Digital Eagles" [32]
- Age UK "iTea and Biscuits" [33]
- The National Housing Federation in partnership with Go ON UK "Go On, Give an hour" [34]

In the vast majority of cases, participants have reported benefits from such schemes by gaining confidence and developing their IT literacy in the areas that were relevant to their lives.

5 RECOMMENDATIONS

Having gained insights into the main barriers to literacy and information literacy it is reasonable to address the issues identified and described in Table 1 as far as possible.

Different teaching and learning approaches emphasise best practice for Information Literacy. The characteristics of such approaches are seldom descriptive, but represent rather a Meta set of elements identified through examination of many different programs and philosophies of mainly undergraduate information literacy.

Characteristics of programmes of Information Literacy that illustrate Best Practices usually include the following categories [35]:

1. Mission statement for an information literacy program:

2. Goals and Objectives

3. Planning for an information literacy program.

4. Administrative and Institutional Support

5. Articulation with the curriculum for an information literacy program:

6. Collaboration

7. Pedagogy for an information literacy program

8. Staff for an information literacy program

9. Outreach activities for an information literacy program: Assessment/evaluation of information literacy includes program performance and student outcomes.

Thus these categories can be used as a benchmark. Table 2 presents proposed remedial actions that can be taken in order to overcome the obstacles that were identified in Table 1.

Case studies and initiatives from the Information and Digital Literacy movements, including RINGIDEA and BCS initiatives, can be used as exemplars serving as typical examples or appropriate models to address obstacles to learning and permit individuals, often from marginalised and oppressed groups in society, to become information literate.

Table 2: Proposed Remedial Actions for Overcoming Obstacles to Learning

Factors	Proposed Remedial Actions
Low educational achievement	• Raise awareness among teachers/tutors/instructors • Adopt an open approach in order to encourage knowledge sharing • Include practical exercises of graded difficulty in order to identify weaknesses • Empower learners to seek help from teacher and members of the group • Give regular feedback
Low self-esteem and a lack of confidence and motivation	• Provide encouragement through confidence building • Motivate through explain the benefits of additional learning for employability, recognition, enjoyment
Cost; transport difficulties; limited availability of courses; lack of access to facilities	• Identify special needs and use existing mechanisms (such as disability support organisations and travel cost allowances) for alleviating the problems • Budget for additional resources • Enhance accessibility to buildings and to technology
Uncertainty and past negative experiences	• Ensure appropriate provision of explanations about the purpose and content of courses • Involve graduates, alumni, people that attended before as role models • Involve employers to explain their requirements and their recruitment strategies
Health and disability	• Identify health (physical and mental) needs • Involve support organisations • Allocate adequate resources • Provide individualised (in terms of pace, time, and place) learning through the use of technologies
Age	• Ensure gradual introduction to new methods and technologies e.g. use of technologies like social media to contact family • Generate an atmosphere of respect for older adults' contribution to society over the years and for their expertise and experience • Bridge the gap between generations – encourage family/group participation and exchange (younger members can help older members with the use of technology, older members can help youngers ones with knowledge, expertise, experience and wisdom) • Provide facilities for older adults to train/retrain for new careers, voluntary work, and continued involvement in social activity
Gender	• Integrate equality at all levels of education in all forms of settings • Take gender needs into consideration when planning infrastructure • Emphasise equality between genders in teacher training • Address gender-based violence as an obstacles to learning
Class	• Allocate resources/awards for less wealthy pupils/students • Promote equality
Race	• Combat racism actively • Raise awareness for education as a basic human right among teachers/tutors/instructors
Culture and religion	• Include cross-cultural training in teacher education • Inform and raise awareness of different cultures and religions
Status of teaching	• Provide frequent professional life-long learning training to educators • Provide incentives (financial, high quality working conditions etc.) • Emphasise teaching as a profession, remuneration, teaching qualifications and technical expertise of teaching & support staff
Poorly designed programmes	• Allow enough time for curriculum and technology development • Involve all potential users in the learning process • Use an iterative process for capturing user needs
Unequal accessibility to technologies	• Ensure that all pupils/students have equal access to technologies • Provide training in technology use • Ensure access to technology

6   CONCLUSIONS

In order to overcome obstacles to learning there needs to be an appetite to fight certain injustices. A social movement needs to be fostered that is not based on the premise that solely technology can lead down the road to individual and national prosperity. Simply throwing technology at the issue of illiteracy and information illiteracy cannot in itself bring about social and economic equality. Any vision of a technological utopia requires complete and accurate assumptions about race, class, and gender.

A sound learning culture empowered through development and implementation of policy and procedures sensitive to the scale, locality and context is needed for raising awareness of Information and Digital Literacy both among educators and students. A human and emotional aspect in terms of interpretation, judgement and decision making needs to be taken into consideration.

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