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Introduction

The Western Balkan Information Literacy Conference is supported by, inspired by and dedicated to the work and achievements of European Union Capacity Building in the Field of Higher Education (CBHE) project 561987 *Library Network Support Services (LNSS): modernizing libraries in Western Balkan countries through staff development and reforming library services.* This is a unique, pioneering European Union funded project which aims to reinforce and modernise libraries and improve the level of competencies and skills of library staff in the Western Balkan countries by developing innovative libraries as a support to education and lifelong learning.

CBHE is the European Union's programme which aims to support the modernisation, accessibility and internationalisation of higher education in the Partner Countries in regions such as Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region, mainly through university cooperation projects. The wider objective of the LNSS project is to reinforce and modernise libraries and improve the level of competencies and skills of library staff in the Higher Education Institutions (HEI's) and in Society by developing innovative libraries as a support to education and lifelong learning. The specific objectives of the project are to implement English for Specific Purposes (Libraries & library terminology) training for all target groups; to undertake in depth training needs detection and assessment with competency mapping; to implement an innovative Train the Trainers programme as part of an LNSS Curriculum incorporating a suite of quality, relevant and modern library staff development modules addressing the most urgent training needs of 21st century librarians and library staff in the Information Age.

The project will develop and implement Information Literacy and Research Skills training programmes in libraries and in HEI's to help learners identify, locate, evaluate, and effectively and ethically use information in their daily lives for lifelong learning and the Knowledge Economy. Other key objectives are to hold Library Training Seminars and Workshops involving all Stakeholders for exchange of experience to improve the competencies and skills of Librarians. Strategic planning issues are also addressed such as the development of a Consortium Strategic Plan for the effective future development of libraries in both Regions and to implement this plan. The project will also develop initiatives to ensure access to and democratization of libraries for people with disabilities. Development of Frameworks for Library Collection Development Policy to meet the needs of academic staff and students in each Institute/University in the project are also a key goal.

The Conference takes its inspiration also from previous European Union projects such as Tempus Project 517117 *Developing information literacy for lifelong learning and knowledge economy in Western Balkan countries*. This was a unique, pioneering European Union funded project which developed information literacy for lifelong learning in the Western Balkans during the period 2011-2015. The Western Balkan Information Literacy Conference is now listed among the most important Information Literacy Conferences of the World. At this years WBILC, not only is there representation from the institutions and countries who are members of this CBHE project- Albania, Bosnia and Herzegovina, Kosovo and Montenegrobut also represented will be neighbouring countries such asCroatia, Greece, Romania, Serbia and Slovenia. An unexpected benefit has been that the Conference has attracted delegates from all over the world. Apart from the representatives coming from Bosnia and Herzegovina there will be delegates for example fromCanada, Germany, Egypt,India,Ireland, Kazakhstan, Mexico, South Africa, Turkey, United Arab Emirates, United Kingdom and the United States etc.

As a result of the involvement of leading international experts in the IL field in WBILC, the concept of Information Literacy which prior to WBILC was almost completely unknown in the Western Balkan region has firmly taken hold and is now embedded in many universities in the Region. Over the years, WBILC has been honoured to have some of the foremost authorities in the IL field as Keynote Speakers. These include DrChristine Bruce-Professor in the Information Systems School, Science and Engineering Faculty, Queensland University of Technology, Australia who was Keynote Speaker at WBILC in 2015. Dr Bruce has an extensive research and publication profile in information literacy and higher education teaching and learning. She has investigated information literacy and learning across educational, workplace and community contexts with a special emphasis on people's experience of information use. At WBILC 2015, Dr Bruce, delivered apaperwhich viewed Information Literacy asthe experience of using information to learn, empowering experiences that are essential to negotiating information environments of many kinds.



Dr Christine Bruce, Professor in the Information Systems School, Science and Engineering Faculty, Queensland University of Technology, Australia.

In 2016, we were privileged to have Mr Paul G. Zurkowski - the originator of the term "information literacy" who was Keynote Speaker at WBILC 2016. As the person who coined the term "Information Literacy" in 1974 when he was President of the Information Industry Association, he is of course well known internationally particularly among Information Literacy practitioners and enthusiasts. His vision for information literacy skills development is not library centric, but advocates for a universal approach in its delivery across all trades, occupations and professions. For Zurkowski, the essence of information literacy is the ability to know how to handle information so that it can be used effectively to solve problems. His paper at WBILC highlighted some of these issues and emphasised the forecasted imminent arrival of a new species of man which suggests that Information Literature practitioners need to expand their reach beyond schools and libraries. Zurkowski envisages a corporate structure to lead a global effort to expand the reach of information

literacy to all of mankind and to provide advance-man support for the emerging "Networked Information Man species".



Mr Paul G Zurkowski, who coined the term "Information Literacy" in 1974 when he was President of the Information Industry Association.

At WBILC 2017 we were delighted to be in the presence of two eminent keynote speakers. We were honoured to have Professor Judith Broady-Preston BA MA PhD MCLIP FHEA-Professor of Information Management and Director, Institute of Professional Development, Aberystwyth University, Wales, UK, Editor-in-Chief of the Emerald journal, Library Review and European editor JoEMLS.



Professor Judith Broady-Preston BA MA PhD MCLIP FHEA-Professor of Information Management and Director, Institute of Professional Development, Aberystwyth University, Wales.

Also participating in WBILC 2017 as Keynote Speaker was Irina Zhilavskaya- Associate Professor at Moscow Pedagogical State University and a member of the Russian Committee of UNESCO Programme "Information for All". Member of the Board of the National Association of Mass Media Researchers. Chief Editor of the scientific and educational magazine "Media. Information. Communication"and President of the Association of Media Professionals. Her paper at WBILC 2017 highlighted Russian experience of developing a competence-based model of media information literacy for teachers. The paper also dealt with the Russian contribution to the global process of developing Media and Information Literacy (MIL) on the international level.



Dr Irina Zhilavskaya- Associate Professor at the Sholokhov Moscow State University for Humanities

This year's WBIL is very special owing to the participation of four highly distinguished keynote speakers from the world of Library and Information Science. WBIL is delighted to haveDr Ismail Serageldin, Emeritus Librarian of Alexandria and the Founding Director of the Bibliotheca Alexandrina (BA), the new Library of Alexandria in Egypt, which he headed from its inauguration in 2002 to his retirement in 2017. He serves on many boards and advisory committees for various international institutions. A graduate of Cairo and Harvard (Phd) he has held many important international positions, including Vice President of the World Bank (1992-2000), and Professor at the Collège de France, Paris, and (2010-2011).



Dr Ismail Serageldin, Emeritus Librarian of Alexandria and the Founding Director of the Bibliotheca Alexandrina (BA), the new Library of Alexandria in Egypt.

WBILC are delighted also to welcome backto Bihać -Dr Tefko Saracevic, Professor Emeritus at Rutgers School of Communication and Information. Professor Saracevic was the President of the American Society for Information Science; received the Society's Award of Merit (the highest award given by the Society). He also received the Gerard Salton Award for Excellence in Research, by the Special Interest Group on Information Retrieval, Association for Computing Machinery (also the highest award given by the Group).

Professor Saracevic has joined us at WBILC on a number of occasions most recently at WBILC 2016 where he delivered a revealing paper which provided an overview of contemporary developments in information technology (IT) asking the the question whether they are working in sync with advances of information literacy in libraries.



Dr Tefko Saracevic, Professor Emeritus at Rutgers School of Communication and Information, USA.

Dr Sanda Erdelez- Professor and Director at Simmons College, USA (School of Library and Information Studies) is also a Keynote Speaker at WBILC this year.Dr. Erdelez is a former Fulbright Scholar and recipient of The Texas Excellence Teaching Award and The ALISE Pratt-Severn Faculty Innovation Award. Her research interests include human information behaviour, human-computer interaction and usability evaluation in online environments. She has been internationally recognised for her pioneering research in the area of information encountering – application of serendipity in information behaviour.



Dr Sanda Erdelez- Professor and Director at Simmons College, USA (School of Library and Information Studies).

We are very pleased also that Dr Jesús Lau- Professor at Universidad Veracruzana, the fourth largest public university in Mexico is one of our Keynote Speakers this year. Dr Lau is a well-known leader and spokesperson for information literacy/information skills for learning. He has travelled professionally to more than 60 countries as a passionate advocate for the role information competencies play in our global knowledge society, the potential of information to transform lives and the importance of information literacy for lifelong learning.

He has played a national and international leading role as a member of the Board of Directors of the Special Libraries Association (USA)–the first foreigner to have this role in its 100-year history. In addition, representing SLA at the International Federation of Library Associations and Institutions (IFLA – The Netherlands) in several roles, among them serving two terms on the Governing Board; on the Executive Committee; and was the first Chair of IFLA's Information Literacy Section.



Dr Jesús Lau, Professor at Universidad Veracruzana, a leader and spokesperson for information literacy/information skills for learning.

This conference presents Conference papers in two sections. First presented arethose papers by representatives from Universities who are partners in CBHE project 561987*Library Network Support Services (LNSS): modernizing libraries in Western Balkan countries through staff development and reforming library services.* Later in the proceedings are the papers of those representatives of universities who are not partners in the CBHE project but from many other parts of the world who recognise that the Western Balkans due largely to the work of this CBHE project and previous projects is now becoming an important centre and champion of information literacy globally.

The conference emphasises the positive influence of European Union funding programmes in regions such as the Western Balkans in accelerating strategic engagement with IL in the region making Information literacy a high priority for both educators and learners in the Western Balkans into the future.

We must be mindful also that Information Literacy is no longer a university or even library centric phenomenon as commentators such as Paul Zurkowski have already proposed. Now a more universal approach is needed across all sectors and affecting all citizens and Society in general. This has recently been highlighted by the Chartered Institute of Library and Information Professionals (CILIP) in the UK and their high level definition of Information Literacy which has recently been launched (April 2018):

Information Literacy is the ability to think critically and make balanced judgements about any information we find and use. It empowers us as citizens to reach and express informed views and to engage fully with Society CILIP 2018, available: <u>https://infolit.org.uk/new-il-definition/</u>

WBILC 2018 celebrates the clear enthusiasm and passion of IL enthusiasts not onlyin the Western Balkans but on the international level. Given the topic of this year's Conference, *Alternative facts, Fake News, getting to the truth with Information Literacy* WBILC 2018 also highlights the relevance of Information Literacy in today's world. The importance of IL has advanced exponentially particularly in recent years as an important tool, to confront the problem of unreliable information or "Fake News".

Librarians have long been concerned with encouraging the careful and critical evaluation of information sources. In a world where it can be increasingly difficult to separate facts from opinions or misinformation, where we are confronted daily with "fake news", Information Literacy can be a very convincing *antidote* to these complex issues. IL can help us decipher whether information is real or fake, enables is to look at who's behind the information, how they operate, what motives they might have. IL helps us reject or accept it. *Getting to the truth with Information Literacy*.

Editorial Board WBILC201

KEYNOTE SPEAKERS

Ismail Serageldin, Ph.D.

Egyptian national, is the Emeritus Librarian of Alexandria and the Founding Director of the Bibliotheca Alexandrina (BA), the new Library of Alexandria in Egypt, which he headed from its inauguration in 2002 to his retirement in 2017.

He serves on many boards and advisory committees for various international institutions. A graduate of Cairo and Harvard (Phd) He has held many important international positions, including Vice President of the World Bank (1992-2000), and professor at the Collège de France, Paris, (2010-2011).

He has published over 100 books and monographs and over 500 papers on a wide range of topics, and has received over 36 honorary doctorates. He is a member of many academies and has been decorated by Chile, Japan, Azerbaijan and other countries and has received the Legion d'Honneur from France and is a Commander of the order of Arts and Letters of the French Republic.

Tefko Saracevic, Ph.D.

Studied electrical engineering at the University of Zagreb, Croatia; completed Master (1962) and Ph.D. (1970) studies in information science at Case Western Reserve University, Cleveland, Ohio, USA. Stayed at Case till 1985, when moved to Rutgers. Promoted to Distinguished Professor in 1991. Professor Emeritus since 2010. Presented papers at international meetings in 48 countries. Was the president of the American Society for Information Science; received the Society's Award of Merit (the highest award given by the Society). Also, received the Gerard Salton Award for Excellence in Research, by the Special Interest Group on Information Retrieval, Association for Computing Machinery (also the highest award given by the Group). As of February 2018, he has received 4,703 citations in Scopus database (the largest abstract and citation database of scientific journals, books, and conference procedings; excludes self- citations). In Google Scholar (with a broader coverage of all kinds of documents in addition to journals) he received 13,504 citations.

Sanda Erdelez, Ph.D.

Dr. Sanda Erdelez is a Professor and Director at Simmons College, USA (School of Library and Information Studies). She received her LL.B. and LL.M degrees from University of Osijek Law School (Croatia) and Ph.D. in information transfer from Syracuse University. She was also a faculty member at University of Osijek and University of Texas at Austin. Dr. Erdelez is a former Fulbright Scholar and recipient of The Texas Excellence Teaching Award and The ALISE Pratt-Severn Faculty Innovation Award. Her research interests include human information behavior, human-computer interaction and usability evaluation in online environments. She has been internationally recognised for her pioneering research in the area of information encountering – application of serendipity in information behavior. Her research has received funding from both corporate and government sources including Dell Inc., SBC Communication, Texas State Government, and NSF. In 2015, Dr. Erdelez received the Outstanding Contribution to Information Behavior Research Award from the Special Interest Group on Information Seeking and Use (SIG USE) of the Association for Information Science & Technology (ASIS&T) and also became member of the SIG USE Academy of Fellows.

Jesús Lau, Ph.D.

A leader and spokesperson for information literacy/information skills for learning, Dr. Lau has travelled professionally to more than 60 countries as a passionate advocate for the role information competencies play in our global knowledge society, and the potential of information to transform lives. Having led four academic libraries, with the responsibility for raising funds and building new library facilities at two of them, Dr. Lau currently is a Professor at Universidad Veracruzana, the fourth largest public university in Mexico. With a Ph.D. in Information Science, Sheffield University, England; a Master's Degree in Library Science, Denver University; and Law Degree at Sinaloa University, Mexico. He has been awarded the title of National Researcher for several consecutive three-year terms, 1989-2018 (Mexico).

He has played a national and international leading role as a member of the Board of Directors of the Special Libraries Association (USA)–the first foreigner to have this role in its 100-year history. In addition, representing SLA at the International Federation of Library Associations and Institutions (IFLA – The Netherlands) in several roles, among them serving two terms on the Governing Board; on the Executive Committee; and was the first Chair of IFLA's Information Literacy Section. Dr. Lau is Past-President of the Mexican Library Association (AMBAC). The author of more than 200 papers and articles and 20 monographs, including the IFLA Information Literacy Guidelines (translated into 12 languages) and an InfoLit Marketing manual.

FINDING THE TRUTH: BUILDING MEDIA AND INFORMATION SKILLS THROUGH A MEANINGFUL LEARNING EXPERIENCE

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ABSTRACT

The daily bombardment of media and information that citizens experience has created a dialectical impact on society. On the one hand, it has benefited communication between individuals, their community and the world at large more than ever, but on the other hand, it has also contributed to create non-communication among the same players. The massive media and information content has also the double effect of conveying positive knowledge enlightenment and the negative effect of disguising truth. Here in this paper, these challenges to our contemporary digital society, and the role of media and information literacy (MIL) in building information social intuition are discussed, devoting most of the paper to how to design a regular credit undergraduate online course--a course proposal that is based on the information skills for learning facilitated by the experience of the author.

Key words: Media and information literacy, MIL, undergraduate course, instructional design, fake news

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1. INTRODUCTION

Any society in history has faced challenges but no other like ours has faced such rapid technological change that is disrupting our ways of communication. Our digital society has the dualistic impact, such that social networks channel myriads of instant messages to personal devices, basically, cellphones that are constantly attached to them. Such a media and information blitz has exacerbated the problem of citizens "relying" on alternative facts and fake news at even he highest level of strata such as government. It now is more difficult to identify the truth of even trivial things in the social network-dominated media. The omnipresence for example of social networks, such Facebook (FB) is staggering. It has unified the Western world, at least for those who can afford and decide to use it, into nearly a single social block. Current FB reports the fantastic figure of 1.45 billion daily active users on average for March 2018, an increase of 13% year-over-year (Park, 2018), with users generating more than 3 million posts per minute (Allen, 2017). Conversely, Nielsen (2006) describes the unequal media participation phenomenon, where only 1% of users of online communities and social networks participate in creating content, while 9% are intermittent contributors, and 90% are observers, creating a rather skewed information social impact. Additionally, in the previous year, 2017, 43% of US adults reported hey get news online, 19% more than in 2016. The most common medium for online news was social media and news websites, 35% and 36%, respectively, but fortunately 62% of US adults had a

moderate trust in the information retrieved from social media (Bialik & Eva Matsa, 2017). Social media users may also have the perception that they do not need to search for news because they will read or watch it on content channeled by social networks. Gil de Zúñiga, Weeks and Ardèvol-Abreu (2017) named this "news-finds-me perception". These authors also found a positive correlation between "news-finds-me perception" and news exposure on social media, and the fact that these users may know less about politics, and that their behavior does not facilitate political learning. Social media users may participate more in social networks and this may foster democracy, but it can provide a false sense of being informed.

The overload and the dissemination of information are facilitated correctly or incorrectly by social media. The instant gratification associated with sharing stories, especially those that provoke reactions between contacts, encourages the spread of false news. As result of this, users with similar opinions often group together to share information that is congruent with their beliefs, forming filter bubbles. Possibly, people avoid information that they find annoying or unpleasant while they are inside such filter bubbles. This is described as "selective exposure or selective information seeking, which is defined as the search for information that is consistent with prior knowledge, beliefs and opinions" to avoid conflict with these internal states for information contrary to them. Maintaining this belief state could be related to intellectual laziness, information overload, or not having the necessary information evaluation skills to obtain reliable information sources. This can allow the spread of false news and circulate low quality information, because it may not seem like "the best information", but it is evaluated as "good enough not to be questioned" (Cooke, 2017). The highly cited report of Vosoughi, Roy, and Aral (2018) gives an idea how the "The spread of true and false news online" is done. Their study found differential diffusion of verified true and false news through 126,000 stories tweeted more than 4.5 million times by 3 million Twitter users from 2006 to 2017. According to their study, true news stories reached fewer people than false ones: 1% of false news cascades was shared by between 1000 to 100,000 users, verified news was rarely diffused to more than 1000 people. False political news was shared more by the users than false news about natural disasters, terrorism, financial information, science and urban legends. They also described that robots shared both false and real news at same rate, implying false news is spread more among humans. These studies certainly evidence that the fake news environment that seems to prevail in our contemporary society makes searching for truth a challenge to at least average citizens.

2. MIL SKILLS ENHANCEMENT

The rapid change and accumulation of information and how technology is used represents a significant challenge for educators, who must foster students' skills to access and apply information and become independent, self-regulated, and life-long learners. The well-cited instruction designer Hirumi (2002) suggests to build a societal foundation of Student-Centered, Technology-Rich Learning Environments (SCenTRLE), where "instruction

should: (a) enhance learner's ability to search for, access, retrieve, interpret, synthesize, organize, transfer, and communicate information; and (b) promote the development of metacognitive strategies and self-regulatory skills associated with life-long learning." SCenTRLE strategy is psychologically based on both the constructivism of evolution and social constructivism, focused on the individual and its relationship with the environment, and the group in its sociocultural context. Epistemologically, the approach is based on pragmatism, where knowledge is constructed by the individual mediated by his previous experience and interactions with others and their environment. Its pedagogical foundations is student-centered, with a focus on performance assessment of problem-based learning that promotes self-directed learning (Hirumi, 2002). Education with this approach certainly contributes to enhance learning because it focuses on the student.

3. INFORMATION DIGESTION STAGES

Intuition is commonly defined as a mechanism for making decisions that works through the association of patterns, quickly and unconsciously, resulting in judgments with affective charge. (Calabretta, Gemser, & Wijnberg, 2017). According to the transformative learning theory of Mezirow (2009), the most transformative learning is done outside of awareness, where intuition substitutes critical reflection with assumptions. The educator's role is to assist the learners to take this process into awareness, where they can make a self-reflection of the assumptions and a critical assessment of the sources, nature and consequences of the habits of mind. The process by which people tend to build their beliefs involves the values they have, stereotypes, the selective attention they give, the limited understanding of it, as well as what they project, minimize or deny. That is why it is necessary to critically evaluate and validate the assumptions to support one's own beliefs and expectations.

Heron (2009), summarizing "his theory of the person", describes a cycle in which people make structural conjectures to solve different aspects related to their life and learning as part of the process of individualization. This cycle is composed of four stages and begins when a person's sensation empathizes with their total situation, then an intuitive awareness is formed that creates an image about the expansive possibilities of the situation. This results in reflection to evaluate the practicality of the situation and develop the intention to act, considering the possibilities. With the action, the situation changes and the cycle begins again. From this cycle, Heron proposes four kinds of learning: Experiential learning, acquire knowledge through empathic resonance; Imaginal learning, acquire knowledge through the exercise of intuition, imagination and perception of the patterning of experience; Propositional learning, acquire knowledge through the exercise of a particular skill needed to do something (See Figure 1).



Figure 1. Heron's "Theory of the person" - Cycle of knowledge (Heron, 2009)

Calabretta et al. (2017), on the other hand expresses that the process of rational thinking involves a systematic analysis based on steps and rules for decision-making. With this structure, rational decision-making can be slow and require time and effort, which may be inappropriate against the pressure, complexity and uncertainty of innovative decision-making. In contrast, intuitive decision making can generate a solution to a perceived problem by identifying, in a non-conscious way, signals and patterns that activate cognitive schemes associated with the problem. Intuitive processing, like the rational one, includes a definition of the problem, an analysis and a synthesis, but these steps occur faster, out of awareness, and affectively charged, giving the sensation of making an accurate decision.

4. EDUCATION AND MIL LIBRARY ROLE

Librarians as part of the education team can contribute with effective information management skills to their learning communities. As information literacy professionals know, there are different information literacy strategies to enhance students or citizens` infoskills that range from remedial ones to integral ones. However, any learning facilitation ideally ought to help students to gain intuition for decision-making in the current social network-dominated society. Current media and information speedily distributed through social networks do not allow students to have time to investigate or assess content. Speed and the impressive amount of information require citizens with good intuition. Librarians and information professionals have undertaken different strategies, such as lectures, guided library tours, library guides, and short workshops among other teaching actions, but these efforts have limited learning impact, unlike the facilitation of information literacy credit courses and the best and holistic one, when there is an institutional information culture strategy, where a full MIL learning portfolio could be deployed. However, this holistic goal is difficult to achieve, and perhaps a more achievable one is to get a curricula-approved credit MIL course. Here in this paper, the focus is on how to design an information literacy online credit course for undergraduates. The option of creating a credit course, especially an online experience is probably the best solution to library teams because it is almost impossible to facilitate face-to-face learning to for all new incoming students at a higher education institution. The proposal of how to design a meaningful media and information course is summarized in the figures 2, 3 and 4. The instruction design proposed here is grouped into three sections: Conceptual framework, learning itinerary, and course flow. As in any other course, information user needs have to be assessed to meet their needs with relevant learning content. The pedagogical part of making the course meaningful to students is not covered in the paper, but the author has worked on a handbook of 75 MIL exercises that are student-centered, using a similar model to the Student-Centered, Technology-Rich Learning Environments suggested by Hirumi (2002). The exercises also aim to create a cycle as described by Heron (2009) to help students construct their learning through the solving of aspects related to their life. The handbook content is not described in this paper due to space limitations. The MIL course design is based on the author's years of MIL teaching experience. The instruction design strategy is divided in three parts: conceptual framework, learning itinerary, and course flow. These three parts are described in the following sections.

5. CONCEPTUAL FRAMEWORK

The conceptual framework is the identification of the ultimate goal that an MIL course aims to achieve in the learning social chain either by a school, university or public library MIL provider. The Association of College, Research Libraries (ACRL) has an excellent framework guideline (ACRL, 2016), as CILIP (2018) also does with the Definition of Information Literacy 2018. Both frameworks identify the MIL awareness that any library instructional team ought to assess when thinking about their particular learning contribution. The ACRL framework is a pragmatic conceptualization of the macro concepts and goals of information, research and scholarship that guide curricula and instructional design. The inspirational concepts are based on thresholds concepts that are "...portals to enlarged understanding or ways of thinking and practicing within that discipline." In other words, these "portals" help to establish the bigger picture and helps to frame MIL teaching action. The frames are in alphabetical order, not logical order. The first learning goal frame is that "Authority Is Constructed and Contextual". In other words that any information source reflect the author's expertise, limitations, and even his or her beliefs, and that any source has to be interpreted and understood in the context that was created and that will be used. The second frame "Information Creation as a Process" is interpreted as helping the learner understand that an information source is a product of a creation process that includes "...researching, creating, revising, and disseminating information vary, and the resulting product reflects these differences." In the third frame ACRL stresses the fact that "Information Has Value" as commodity or learning product and that socioeconomic interest shape production and dissemination of information. "Research as Inquiry" is frame fourth, where the iterative role of research has to be explained. In other words there is no ultimate end in a research process, where a question-answer leads to another question in any field. The fifth frame "Scholarship as Conversation" emphasizes the fact that researchers and scholars build knowledge in a discourse with peers from their own perspective; therefore scholar interaction is fundamental to the expansion of knowledge. The last frame, the sixth

one, focuses on the library's core role of "Searching as Strategic Exploration" that aims to explain to the user that any search is "nonlinear and iterative" and that a flexible attitude to evaluate a whole range of information sources is needed. These goals give meaning and understanding to MIL facilitation, so any institution and its library have to identify and have a clear learning mission that can certainly vary or be different to the ACRL "Thresholds or portals" (See Figure 2).



Figure 2. Conceptual framework

6. LEARNING ITINERARY

Once the institutional framework is defined according to its community information needs and macro learning goals, media and information skills have to be identified and prioritized. Such skills need to be approached within the curricula context of related courses such a research methods, and writing and composition of undergraduate programs. The MIL course ought to focus on information search, retrieval and evaluation that are at the core of information management. In this proposed case the information skills are based on the Mexican Information Literacy Standards (Cortés, González, Lau, et al., 2002) that in turn were inspired in the ACRL ones. Such standards were discarded by ACRL, but they are useful to institutions that have competence-based learning, such as CETYS University, where the discussed model is used. The first recommended skill is to enhance students' competence such that they understand the information cycle of their own discipline of study: Where, how, and who generates, processes and distributes the subject related information. The second skill is to help students to be aware of intellectual property principles and the legal aspects of respecting author rights, while the third skill fosters students' ability to identify their information needs and the benefits of using information. The fourth skill has the aim to enable students to locate and interact with the main interfaces of media and

information systems and platforms. The fifth, the retrieval skill contributes to student capacity to recuperate information regardless of the format and geographical location. The evaluation skill, the sixth one, comes after students have located and retrieved information by analyzing and assessing the sources and performed iterative search and retrieval to find relevant information about whatever real-life problem they may be studying. The relevant information acquired by students is used (skill eight) to write or create a product that allows them to develop communication capabilities. Finally, such product, ideally a written text, is recommended to be published in Wikipedia, so that students are encouraged to experience research, document and write about a relevant topic and experience real-life publishing (See Figure 3).



Figure 3. Learning itinerary

7. COURSE FLOW

The course flow is the sequencing of the learning process where each step includes at least two learning exercises from the mentioned MIL exercises that includes several for each MIL skill to sum 75 exercises (Lau & Bonilla, 2018). The first pedagogical step is to ask students to select a problem that may be relevant to them, such as a paper for another curricular course, followed by exploration and sampling of the literature in quality sources, such as academic databases. The second step is to enable students to recognize and respect intellectual property, such as the value of citations, references and bibliographies; followed by exercises of search and retrieval in step 3, locating and retrieving different types of information, wherever they may be and regardless of their format. This phase is enhanced by the fourth step that requires students to identify media and information sources, either digital or paper-based, and assess the value that they may have to their research project. In step five, the course focus is on how students can gain competence to recognize the value of primary, secondary and tertiary sources, especially the first one that normally students find difficult to use. Again, in this step locating, retrieving and selecting information is a requested activity. Open access information is part of step six, so that students especially those who study at institutions with limited library budgets familiarize and benefit from the increased free access sources produced in the Western World. The next step, seven, conveys the facilitation of the core evaluation skill of sources by applying criteria according to the characteristics of media and information, as assessment may differ according to the content and type of source. The seventh step of the course flow is integration of the retrieved and evaluated sources into the writing of an essay. This academic product, as part of the final step nine, requires students to publish in Wikipedia, so that they have publishing experience. The nine course flow steps ideally guides the development of students MIL skills that the course has as the ultimate goals. Each step ought to stress the quality of MIL sources, such primary information, currentness and language, usually English, as the primary science medium. The MIL course design normally follows the information literacy institutional rubric, in this case CETYS University (Lau, Bonilla, & Gárate, 2018) that in turn requires 10 elements to undergraduate syllabus instructional designer (See Figure 4).



Figure 4. Course flow

8. CONCLUSION

Finding the truth is the ultimate goal of doing research that is to find answers to a problem, a principle that is at the heart of any scientific inquiry. MIL unconditionally should follow this principle, in other words, facilitating MIL skills to find the truth utilizing the best and most relevant media and information. Truth is a core value in most, if not all, societies. However, the inquiry process of finding truth requires training and the best learning environments are home and school. Educational institutions, that is universities, the focus of

this paper, have to enable students to develop MIL skills, a first step for any successful research activity, and learning and decision-making in general. Our contemporary digital society demands wiser use of social networks information. The best way to achieve an information society is to offer MIL learning opportunities as part of the curricula and ideally to have information culture as an institutional value. An effective strategy is to offer credit MIL courses integrated as part of the undergraduate curricula. Here an instructional design is proposed in three phases: Conceptual framework, learning itinerary, and course flow; where each phase includes different elements based on the literature and the experience of the author. The goal is to enable students to learn to use the most relevant and reliable sources; as well to produce and communicate information in our digital society, currently dominated by social network media and information.

9. LITERATURE

ACRL. (2016). *Framework for Information Literacy for Higher Education*. Chicago, IL. Retrieved from http://www.ala.org/acrl/standards/ilframework

- Allen, R. (2017). What happens online in 60 seconds? Retrieved May 27, 2018, from https://www.smartinsights.com/internet-marketing-statistics/happens-online-60-seconds/
- Bialik, K., & Eva Matsa, K. (2017). Key trends in social and digital news media. Washington, DC. Retrieved from http://www.pewresearch.org/facttank/2017/10/04/key-trends-in-social-and-digital-news-media/
- Calabretta, G., Gemser, G., & Wijnberg, N. M. (2017). The Interplay between Intuition and Rationality in Strategic Decision Making: A Paradox Perspective. *Organization Studies*, *38*(3–4), 365–401. https://doi.org/10.1177/0170840616655483
- CILIP. (2018). *CILIP Definition of Information Literacy 2018*. London, UK. Retrieved from https://c.ymcdn.com/sites/www.cilip.org.uk/resource/resmgr/cilip/information_profess ional_and_news/press_releases/2018_03_information_lit_definition/cilip_definition_d oc_final_f.pdf?hhSearchTerms=%22information+and+literacy%22
- Cooke, N. A. (2017). Posttruth, Truthiness, and Alternative Facts: Information Behavior and Critical Information Consumption for a New Age. *The Library Quarterly*, 87(3), 211–221. https://doi.org/10.1086/692298
- Cortés, J., González, D., Lau, J., Moya, A. L., Quijano, A., Rovalo, L., & Souto, S. (2002). Normas sobre Alfabetización Informativa en Educación Superior. Ciudad Juárez, Chih. Retrieved from

https://www.uv.mx/veracruz/usbi/files/2012/09/DeclaratoriaTercerDHI.pdf

- Gil de Zúñiga, H., Weeks, B., & Ardèvol-Abreu, A. (2017). Effects of the News-Finds-Me Perception in Communication: Social Media Use Implications for News Seeking and Learning About Politics. *Journal of Computer-Mediated Communication*, 22(3), 105– 123. https://doi.org/10.1111/jcc4.12185
- Heron, J. (2009). Life cycles and learning cycles. In K. Illeris (Ed.), Contemporary Theories of Learning: Learning theorists in their own words (First, pp. 90–105). Oxon: Taylor & Francis. Retrieved from

https://pdfs.semanticscholar.org/1085/b8aaeee9d65dccbe930dca5fe6034bbaeb4d.pdf Hirumi, A. (2002). Student-Centered, Technology-Rich Learning Environments

- (SCenTRLE): Operationalizing Constructivist Approaches to Teaching and Learning.
 Journal of Technology and Teacher Education, 10(4). Retrieved from
 http://www.worldcat.org/title/student-centered-technology-rich-learning environments-scentrle-operationalizing-constructivist-approaches-to-teaching-and learning/oclc/5497600473&referer=brief_results
- Lau, J., and Bonilla, J. L., & Gárate, A. (2018). Information Literacy Learning Activity Handbook for Undergraduates. Mexicali, México, CETYS University. In press
- Lau, J., Bonilla, J. L., & Gárate, A. (2018). Outcomes and Challenges of Offering an Information Literacy Compulsory Undergraduate Credit Course: A Mexican Case. In Serap Kurbanoğlu, Joumana Boustany, Sonja Špiranec, Esther Grassian, Diane Mizrachi, & Loriene Roy (Eds.), *ECIL 2017: Information Literacy in the Workplace* (pp. 568–575). Springer, Cham. https://doi.org/10.1007/978-3-319-74334-9 58
- Mezirow, J. (2009). An overview on transformative learning. In K. Illeris (Ed.), *Contemporary Theories of Learning: Learning theorists in their own words* (First, pp. 90–105). Oxon: Taylor & Francis. Retrieved from

https://pdfs.semanticscholar.org/1085/b8aaeee9d65dccbe930dca5fe6034bbaeb4d.pdf

- Nielsen, J. (2006). The 90-9-1 Rule for Participation Inequality in Social Media and Online Communities. Retrieved from https://www.nngroup.com/articles/participationinequality/
- Park, M. (2018). Facebook Facebook Reports First Quarter 2018 Results. Retrieved May 27, 2018, from https://investor.fb.com/investor-news/press-releasedetails/2018/Facebook-Reports-First-Quarter-2018-Results/default.aspx
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science* (*New York, N.Y.*), 359(6380), 1146–1151. https://doi.org/10.1126/science.aap9559

INFORMATION AS A COMMODITY, ITS IMPORTANCE FOR ECONOMIC DEVELOPMENT AND THE ROLE OF INFORMATION LITERACY.

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ABSTRACT

The development of an informed society that can partake in skilled decision-making is now considered of major importance. Within countries, long-term economic development is dependent on ability to use information to make decisions "that enable growth, progress and productivity" (Australian Library and Information Association 2009). This paper examines the importance of Information in today's world as a crucial raw material for decision makers worldwide. The paper will also examine definitions and meanings in the context of information as a commodity and highlight the basic economics of information- its supply and demand, pricing and market.

Libraries have always known the value of information. However in today's Internet Age, librarians and information professionals are realising the need to "differentiate the information commodity". They realise the need to create a unique user experience to make it clear to the end user or customer that a product or service is differentiated from competitors.

As highlighted by Bell (2009), Librarians face significant challenges in that their primary product, information, is a commodity that is difficult to differentiate. Prior to the dawn of Internet search engines such as Google Scholar and others, academic libraries could emphasize their scholarly content as different from what search engines offered. However, search engines such as Google Scholar have changed this situation dramatically.

Now the end user may perceive all information as relatively the same regardless of its source. This is especially so when they can find the information on their own and as sometimes can be the case- without even the most basic information literacy skills to evaluate the information found. The information seems to relate to the question or topic of choice hence they may be pleased with the results. The fact that it may not necessarily be the highest quality information may be irrelevant to the user. They think they have found what they have been looking for, it's convenient; its fast, but is it accurate and reliable?

"Information can be metaphorically aligned to water. If you are thirsty, you will reach for the nearest drink. Only later will you consider the quality, the same could be said for searching for information" (Interview with Jerald Cavanagh, June 2018) The paper will conclude with some reflections on Information Literacy and its role in negotiating the "commodification of the information profession", in a world where information is being "reorganised under a neoliberal worldview to allow information to appear and function as a commodity" (Lawson et al 2014).

4. LITERATURE

Australian Library and Information Association (2009) *Statement on information as a commodity and its importance to economic development*, Kingston: Australian Library and Information Association, available: https://www.alia.org.au/about-alia/policies-standards-and-guidelines/statement-information-commodity-and-its-importance-economic-development [accessed 29th April 2018].

Bell, S (2009) *Differentiating the Information Commodity*, Philadelphia, PA: Temple University.

Lawson, S, Sanders, K and Smith, L (2015) Commodification of the information profession: a critique of higher education under neoliberalism, *Journal of Librarianship and Scholarly Communication*, 3(1), available: https://jlsc-pub.org/articles/10.7710/2162.../8/download/ [accessed 28th April 2018].

FAKE NEWS: THE ROLE OF SEARCH ENGINES AND WEBSITE CONTENT

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ABSTRACT

The concept of fake news is quite old - a comic strip from 1894 shows journalists with a news item bearing this name. It can be loosely defined as being false (often sensational) information, appearing to be truthful news, being spread to influence public political or other views. Various generators of fake news have been identified - in almost all cases with a clear intent to misinform. Libraries, having always been a source of accurate and truthful information, are being pressurized into acting on this problem. The general perception (especially amongst the younger generation) that whatever the Internet says must be true, has not helped in this situation.

The Trump election of 2016 has shown that social media (Facebook specifically) can be a popular and powerful platform for distributing fake news. Twitter has also been used to produce a false impression of a given situation, as used by the "Russian trolls". Many free software programs have been identified, which can be used to generate large amounts of fake content in a very short time, based on supplied seed content.

In all known cases, it was found that website content being generated has been at the centre of the fake news situation. This content generation could be done using ordinary web design platforms, any content management system, or as was done in most cases, using a popular social media platform. This is not a new phenomenon, as it has been done for many years in the world of black-hat search engine optimisation, to create "false" content in an attempt to impress the search engine algorithms. The way search engine crawlers and algorithms operate is at the centre of the fake news phenomenon.

In conclusion, there seems to be no easy way of preventing fake news from reaching the consumer. This is a result of the ease with which website content can be generated and added to the Internet, and the lack of any gate-keeper function (for example, a librarian or editor) on webpages in general. The use of sentiment analysis should be investigated further in the striving towards finding a solution for this problem, as well as adapting search engine algorithms to spot fake news, as is currently being done to identify thin content, keyword spamdexing and other black-hat technologies.

Key words: fake news, website content, search engine algorithms, black-hat search engine optimization

1. INTRODUCTION

As far as it could be established, the term "fake news" was first used in 1894 (Opper 1894) in a comic drawing where Joseph Pulitzer was waiting in a news office for reporters bringing him fresh news stories. Fake news can be defined in a wide sense as being false information presented as being truthful news with an intent to misinform the reader (Anonymous n.d.a.; Anonymous n.d.b,).

In the modern environment, fake news is mostly being based on Internet distribution platforms, where it is much easier to spread quickly than through traditional newspaper print or even using a library as distribution channel. Modern fake news almost always manifests as website content, which implies two important basic facts:

- Fake news consists of text being hosted on a website in some form, and
- Fake news is therefore subject to search engine scrutiny, to then be indexed and found by Internet users.

Unfortunately, and this is arguably at the centre of the fake news debate, anyone can easily and quickly generate content to be exposed on the Internet. This can be done without any gate-keeper function to check the grammar, let alone checking the accuracy/truthfulness of this content.

It should be noted at this point that there has been a progression of methods to expose any content on webpages on the Internet since the nineties:

1.1 HTML Web design

Initially, webpages (and its content) were created through a time-consuming and labourintensive HTML coding process, at the time the exclusive domain of coders and Web designers – far removed from the general public (Griffiths *et al* 2012; Guns 2013).

1.2 Content Management Systems

Secondly, Content Management Systems (CMS's) became popular, which allowed a nonprogrammer to build a website and create content for it. This moved content creation, and the possibility of generating fake news, into the general public domain. The most popular CMS's include WordPress, Joomla and Drupal (Goans*et al* 2006; Hubble *et al* 2011; Harrison 2006). WordPress was originally designed as a blogging platform, but is currently a very popular choice of website designers.

1.3 Social media

Most recently, social media has become a popular platform for creating content. Social media is in effect just another form of CMS, where the social media companies are relying on everyday users to create content for them, without paying (Huotari*et*

al 2015; Rathore *et al* 2016; Wilkinson 2018; Balakrishnan *et al* 2017). They are hoping that this content would be of enough value to convince millions of other users to read and follow it, creating many eyeballs-on-screens per day. In turn, this provides an opportunity for

marketing and advertising to these eyeballs. It is this development, and the role of search engines, which will be the focus of this paper.

2. LITERATURE REVIEW

To better understand fake news, and look at ways to solve the problem, the role-players in this arena should first be placed.

2.1 Generators and Platforms

It would seem natural to suspect journalists as being the source of fake news, since they have traditionally been the main generators of news, through publishing in printed media (Himma-Kadakas 2017; Rotfeld 2005; Dalen, *et al* 2001). However, fake news as found on the Internet, is merely website content being published on a webpage, using either a standard HTML webpage, or a webpage provided by social media platforms such as Facebook and Twitter. Since websites are easy to create and host (see 1.1 to 1.3), any human being who can read and write (not only journalists) can now produce content on a website, without its sources or accuracyhaving been checked. This is one of the reasons why fake news is currently so prevalent (Fernandez 2017).

Currently, it seems as if Facebook, Twitter and blogs are the three most commonly used social media platforms for the publication of fake news (Badawy*et al* 2018; Marchi 2012; Gunter *et al* 2009). Social media platforms (including these three) are merely another form of CMS, where users can create content without getting involved in programming. This confirms the suspicion that the ease of creating content on webpages, and the way search engines crawl the Internet, is at the heart of the fake news problem.

2.2 Libraries

With the arrival of fake news, libraries have earned the dubious honour of being responsible for solving this phenomenon (Batchelor 2017; Montgomery *et al* 2017). Traditional peer reviewed research publications can be seen as "the opposite" of fake news - other research seems to suggest that published academic research content should be accessible not only on library shelves, but also through search engines, since many searchers rely on these rather than academic databases and libraries to find published research work (Weideman 2012; Weideman 2011a; Weideman 2011b). This function also seems to rest with the university library (Weideman 2010). At this stage, it seems as if libraries are not equipped to deal with this problem.

2.3 Young consumers

It has been proven that the younger generation perceive information gathered from the Internet in a different way from older consumers (Smith *et al* 2017; Sabwa*et al* 2010). It can therefore be deduced that fake news is more likely to be accepted and be spread by a younger population group, than an older one.

2.4 Search Engines and website content

Creating "good" content on the Web takes time and therefore money – journalists and human copy-writers are required to write website content which is relevant, updated, accurate and reads well. As a result, supporters of black-hat search engine optimisation (SEO) have found ways to create large amounts of content in a short time, so as to bypass this cost "hurdle" – see below. At the same time, search engines have been improving their algorithms to detect various forms of spamdexing, including thin content (pages with mostly hyperlinks and little descriptive text and doorway pages) and keyword stuffing (excessive and repetitive use of the same keyword or key-phrase). One of Google's main algorithm updates, termed Panda, focused on detecting thin content (Van den Beld 2014).

Software exists which requires a chunk of "seed content" – it then uses that to instantly produce similar but different content (without changing any hyperlinks). This is called "spinning" and is an old favourite of black-hat SEO spammers. By combining this function with other automated systems, thousands of fake webpages can be generated very quickly, each one with what appears to be legitimate content (different from the others), but about the same topic. Since the links remain the same, this technique is also used in black-hat link building, in an attempt to fool the search engines.

As an example, a randomly chosen news item was taken from CNN.com (Cohen 2018), edited for length, and a URL was added to the body – see Figure 1 (left panel). This content was then spun, using one of many freely available text spinning programs, and it produced a similar piece of text, containing some grammatical and other inaccuracies, but retaining the meaning of the original text and the hyperlink details (right panel).



Figure 1: Example of content spinning (Anonymous n.d.c)

If this fake content is now hosted and submitted to the search engines for crawling, it becomes clear how large amounts of fake news can find itself into the indices of search engines, and onto the screens of information consumers, within a short period of time. Where Google used to take around 19 days on the average to index a website on request (Zuze 2011), it currently takes only a few hours.

It should be noted that spun content, as in Figure 1, does not read well to an intelligent human being. However, crawlers are merely software programs, and they do not have the intelligence to "see" that this type of content is badly written. They do pick up the hyperlinks and meaningful phrases, thereby (theoretically) increasing the ranking of the target webpage, which in turn will put the fake news on more human reader screens.

2.5 Politics, Finance and Celebrities

Fake news seems to be more prevalent in the fields of politics, finance and celebrities (Klein *et al* 2017; Green *et al* 2018; Brigida 2017). Arguably the most well-known case is the 2016 Trump election in the USA (Pickard 2016; Allcot*et al* 2017). Mostly social media platforms were used to boost the Trump election campaign, resulting in a somewhat unexpected victory. Also, many politicians have been using especially Twitter to air their political views, sometimes with disastrous results.

It was also claimed (but no reliable evidence could be found), that Trump has paid Russian social media agencies to create around 500 fake Facebook pages, making many claims which put candidate Hilary Clinton in a bad light. Each page had links to other pages confirming these claims. It was then further claimed that an investigative journalist followed up on one of these campaign pages, but could not trace the author, even though a photograph, names, addresses and telephone numbers were supplied. Facebook apparently removed most of these pages after their own investigation (Tornoe 2017; Evon 2016; Shane 2017; Lee *et al* 2017). As another example, the next royal wedding was due on 19 May 2018, between actress Meghan Markle and Prince Harry of the UK. When doing a search for the latest news on this event, many relevant websites could be found – see Figure 2. On these, nothing was mentioned about the wedding having been called off.



Figure 2: Search results on Prince Harry's wedding (Bing 2018).

However, at the same time, a slight change in the search query produced a number of news stories that this wedding has been cancelled - see Figure 3. The sources of these (apparently) fake news items varied from well-known newspaper sites, to a Russian website, to a YouTube video. Only time will tell whether these rumours (possibly fake news) were accurate.



Figure 3: Search results on possible fake news about Prince Harry's wedding (Google 2018)

This confirms that social media is and can be abused to spread any news, fake or accurate, about any topic, based on the fact that users can easily create fake news, host it on any Web platform (including social media), and see it go viral in a short period of time.

3. WHY IS FAKE NEWS SO PREVALENT?

To summarize, the following are the basic elements underlying the explosion of fake news currently experienced:

- It is easy to generate content and expose new content (which could be fake news) on the Internet.
- Search engines can index this new information very quickly, causing it to sometimes "go viral" in a very short time.

Any attempt to solve the problem of fake news, will have to address either or both of these points successfully.

4. CONCLUSION AND SOLUTIONS

It has been claimed that an outdated approach like listing fake news sites, and red-flagging fake stories, imply a misunderstanding of the issue at hand (Rochlin 2017). It is also claimed that the use of multiple clicks as an indication of popularity can easily lead to viral exposure of fake news.

In conclusion, the problem probably cannot easily be solved using human-centred skills or time. Thehuman cannot compete with the speed, repetitive power and tireless energy of automated software. At the same time, it is claimed that the creation of special software to detect fake news is in its infancy and cannot be expected to have a major curbing effect on the problem soon (Burkhardt 2017). This begins to sound ominously familiar to the same catch 22 situation in which search engines find themselves today. Every time an active black-hat practitioner finds a new way to attempt to trick search engine algorithms into giving a website a higher ranking than what it deserves (Weideman 2009), the search engines respond by putting counter measures in place. This has evolved into a never-ending race between the good and the bad guys. Are we heading the same way with libraries and fake news?

Another possible solution could lie with the search engines themselves – they have a rich source of expertise in AI and algorithmic development which could become the foundation of a platform to develop software which could detect, identify and even remove (from their indices) any appearance of fake news. Sentiment analysis (also termed opinion mining) could be the basis of this solution – software which attempts to determine, based on written text, what the writer's attitude is or was on a given topic.

Finally, possibly the onus will have to fall back on university libraries themselves, to educate users on using their own human intelligence to separate fake and real news – similar to the current instruction done by libraries on basic information literacy.

In final conclusion, the solution to the fake news problem might lie either within the university library, or with the creation of advanced sentiment analysis software.

5. LITERATURE

- 1. Allcott, H &Gentzkow, M. 2017. Social media and Fake News in the 2016 Election. *Journal of Economic Perspectives*, 31(2): 211-236.
- Anonymous, n.d.a*Fake news*. Retrieved from https://dictionary.cambridge.org/dictionary/english/fake-news_[10 May 2018].
- Anonymous, n.d.b, *Fake News*. Retrieved from https://www.collinsdictionary.com/dictionary/english/fake-news_[09 May 2018].
- Anonymous, n.d.c, *Free Article Spinner*. Retrieved from https://free-articlespinner.com/ [07 May 2018].
- Badawy, A., Ferrara, E. &Lerman, K. 2018. Analyzing the Digital Traces of Political Manipulation: The 2016 Russian Interference Twitter Campaign. Retrieved from https://arxiv.org/pdf/1802.04291.pdf [09 May 2018].

- 6. Balakrishnan, J. & Griffiths, M. 2017.Social media addiction: What is the role of content in YouTube? *Journal of Behavioral Addictions*, 6(3): 364-377.
- 7. Batchelor, O. 2017. Getting out the truth: the role of libraries in the fight against fake news. *RSR*, 45(2): 143-148.
- 8. Bing, 2018. Search results. Retrieved from www.bing.com [11 May 2018].
- 9. Brigida, M. 2017. Fake News. North Am J of Economics & Finance, 42: 564-573.
- 10. Burkhardt, J.M. 2017. Combating Fake News in the Digital Age. *Library Technology Reports*, 53(8): 5-33.
- Cohen, Z. 2018. Trump says 3 Americans held in North Korea have been released. Retrieved from https://edition.cnn.com/2018/05/09/politics/donald-trump-north-koreadetainees/index.html [09 May 2018].
- 12. Dalen, L.H., Stanton, N.A. & Roberts, A.D. 2001. Faking personality questionnaires in personnel selection. *Journal of Management Development*, 20(8): 729-742.
- Evon, D. 2016. Mark Zuckerberg Removing Clinton, Trump Pages for Facebook Likes. Retrieved from https://www.snopes.com/fact-check/zuckerberg-removing-pages/[11 May 2018].
- 14. Fernandez, P. 2017. The technology behind fake news. Lib HiTech, 34(7): 1-5.
- Goans, D., Leach, G. & Vogel, T.M. 2006. Beyond HTML: Developing and reimagining library web guides in a content management system. *Library Hi Tech*, 24(1): 29-53.
- 16. Google, 2018. Search results. Retrieved from www.goole.com [11 May 2018].
- 17. Green, J. & Speed, E. 2018. Critical analysis, credibility, and the politics of publishing in an era of 'fake news'. *Critical Public Health*, 28(2): 129-131.
- 18. Griffiths, L.S., Ogden, R. & Aspin, R. 2012. A Profile of the Future: What Could HTML 5 Do for HE by 2015? *Research in Learning Technology*, 20: 49-57.
- 19. Guns, R. 2013. Tracing the origins of the semantic web. *Journal of the American Society for Information Science & Technology*, 64(10): 2173-2181.
- 20. Gunter, B., Campbell, V., Touri, M. & Gibson, R. 2009. Blogs, news and credibility. *Aslib proceedings*, 61(2): 185-204.
- 21. Harrison, W. 2006. Content Mismanagement Systems. IEEE Software, 23(1): 5-8.
- 22. Himma-Kadakas, M. 2017. Alternative facts and fake news entering journalistic content production cycle. *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, 9(2): 25-41.
- Hubble, A., Murphy, D.A. & Perry, S.C. 2011. From Static and Stale to Dynamic and Collaborative: The Drupal Difference. *Information Technology & Libraries*, 30(4): 190-197.
- 24. Huotari, L., Ulkuniemi, P., Saraniemi, S. & Mäläskä, M. 2015. Analysis of content creation in social media by B2B companies. *Journal of Business & Industrial Marketing*, 30(6): 761-770.
- 25. Klein, D.O. &Wueller, J.R. 2017. Fake news: a legal perspective. *Journal of Internet Law*, 20(10): 5-13.

- Lee, C.E. & Kent, J.L. 2017. Facebook Says Russian-Backed Election Content Reached 126 Million Americans. Retrieved from https://www.nbcnews.com/news/usnews/russian-backed-election-content-reached-126-million-americans-facebook-saysn815791 [11 May 2018].
- 27. Marchi, R. 2012. With Facebook, Blogs, and Fake News, Teens Reject Journalistic "Objectivity". *Journal of Communication Inquiry*, 36(3): 246–262.
- Montgomery, L. &Gray, B. 2017. Information Veracity and the Threat of Fake News, In The Emerald Handbook of Modern Information Management. Retrieved from https://doi.org/10.1108/978-1-78714-525-220171017 409-435 [06 May 2018].
- 29. Opper, F. 1894. *The fin de siècle newspaper proprietor / F. Opper*. Retrieved from https://www.loc.gov/resource/ppmsca.29087/ [30 April 2018].
- 30. Pickard, V. 2016. Media Failures in the Age of Trump. *The Political Economy of Communication*, 4(2): 118–122.
- Rathore, A.K., Ilavarasan, P.V. & Dwivedi, Y.K. 2016. Social media content and product co-creation: an emerging paradigm. *Journal of Enterprise Information Management*, 29(1): 7-18.
- 32. Rochlin, N. 2017. Fake news: belief in post-truth. Lib HiTech, 35(3): 386-392.
- 33. Rotfeld, H.J. 2005. And a comedian shall show journalists the way. *Viewpoint in Journal of Consumer Marketing*, 22(3): 119-120.
- Sabwa, J.M. & Weideman, M. 2010. Paid search engine vs organic results: young consumer preferences. *Proceedings of The Twelfth World Wide Web conference* (ZAW3-10), Durban, SA. Retrieved from www.web-visibility.co.za//0102-conferencepaper-2010-sabwa-weideman-search-engine-organic-results.html. [10 May 2018].
- 35. Shane, S. 2017. *The Fake Americans Russia Created to Influence the Election*. Retrieved from

https://www.nytimes.com/2017/09/07/us/politics/russia-facebook-twitter-election.html [11 May 2018].

Smith, L.N. &McMenemy, D. 2017. Young people's conceptions of political information Insights into information experiences and implications for intervention. *Journal of Documentation*, 73(5): 877-902.

- Tornoe, R. 2017. Here's what fake Russian Facebook posts during the election looked like. Retrieved from http://www.philly.com/philly/news/politics/presidential/facebookrussia-fake-posts-trump-election-clinton-20171006.html [11 May 2018].
- Van den Beld, B. 2014. Danny Sullivan: 'You'd Think Everyone in the World was Hit by Panda'. Retrieved from http://www.stateofdigital.com/danny-sullivan-interview-2014/[14 May 2018].
- Weideman, M. 2012. Academic Content a valuable resource to establish your presence on the Web. *Plenary keynote at the 2nd International Conference on Integrated Information*, Budapest, Hungary, 30 Aug – 03 Sept. Retrieved from http://www.web-visibility.co.za//0046-plenary-paper-2012-weideman-academiccontent-web-visibility-presence.html [05 May 2018].

- Weideman, M. 2011a. UK University Website Visibility responding to the quirks of the crawler. *Plenary keynote at the Institutional Web Management Workshop*, Reading, UK. 26 – 27 July. Retrieved from http://www.web-visibility.co.za/0098-plenary-paper-2011-weideman-quirks-of-crawler.pdf [07 May 2018].
- Weideman, M. 2011b. Rogue's Gallery South African university website visibility. *Proceedings of The Thirteenth World Wide Web conference(ZAW3-11)*, Johannesburg, SA. Retrieved from www.web-visibility.co.za/0007-conference-paper-2011-weidemanuniversity-website-visibility.html[09 May 2018].
- Weideman, M. 2010. Empirical study on crawler visibility of PDF documents in digital libraries. *Proceedings of The Third IEEE International Conference on Computer Science and Information Technology(ICCSIT 2010)*, Chengdu, China. 10 – 13 July. 373-379. Retrieved from www.web-visibility.co.za/0026-conference-paper-2010weideman-pdf-google-retrieval-digital-library.html
- [10 May 2018].
- 42. Weideman, M. 2009. *Website Visibility: The Theory and Practice of Improving Rankings*. Chandos Publishing: Oxford.
- 43. Wilkinson, J. 2018. Accessible, Dynamic Web Content Using Instagram. *Information Technology & Libraries*, 37(1): 19-26.
- 44. Zuze, H. 2011. The crossover point between keyword rich website text and spamdexing. Research thesis 100%, full time, Cape Peninsula University of Technology, Cape Town. Graduated 16 September. Retrieved from http://www.web-visibility.co.za/0002masters-thesis-2011-zuze-keyword-rich-spamdexing.pdf [09 May 2018].

HOMEWORK WITH KAHOOT IN COPYRIGHT LITERACY

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ABSTRACT

Copyright literacy is a very important topic in the digital era. More and more, there is a need to find the perfect way to teach the new generation of digital students about copyright, and how to increase their skills in using in right use informational resources. Internationally, initiatives like surveys, gamification and different games has been used to teach copyright literacy. The authors are from 3 different countries. They collaborated and generated an online model to assess students in copyright literacy. The model can be used by other teachers and librarians in their activities. The results show a great interest in and acceptance for using gamification in student evaluation.

Key words: Copyright literacy, gamification, Kahoot! international survey

1. COPYRIGHT LITERACY

Copyright is a subject that increasingly has a major impact on the library and information profession. In higher education most in UK universities now employ a copyright officer or nominate someone to be the copyright specialist to deal with queries of this nature. (Secker and Morrison, 2016)

In the information communication community, a strong network on how to teach and train librarians and trainers in copyright literacy, was built.

At– the European Conference in Information Literacy (ECIL) 2013 Dr Tania Todorova, Professor at the University of Library Studies and Information Technologies, Sofia, Bulgaria, started a survey to investigate copyright policies and the levels of knowledge among librarians and specialists from other cultural institutions. The survey was extended in 2014 to France, Turkey and Croatia and the findings presented at ECIL 2014.

Since this date the copyright literacy survey has been carried out in 10 other countries – Finland, Hungary, Lithuania, Mexico, Norway, Portugal, Romania, Spain, United Kingdom and the USA. Findings of the study highlight gaps in existing knowledge of copyright, and the level of copyright literacy of LIS and cultural sector professionals. Also attitudes toward copyright learning content in academic education and continuing professional development training programs are investigated. (Todorova and all, 2017)

The results were also disseminated at IFLA 2017. (Secker, 2017)
2. GAMIFICATION IN EDUCATIONAL SYSTEM

Gamification is transferring some of the positive characteristics of a game to something that is not a game. The positive characteristics of a game are often described as "fun" and they have the effect of engaging game players in the activity. Gamification is integrating game dynamics into your site, service or content, in order to drive participation or awareness. Gamification has risen as a trend around 2010 as it started to become used worldwide in various areas – from business to education. The term was used for the first time in 2002 by Nick Pelling (Pelling 2011) but it was just too early for the proper adoption of the concept.

Since 2010, gamification is one of the most popular trends in various areas. In the latest Gartner Hype Cycle report gamification is situated in the peak of inflated expectations (Gartner 2013). That means there will be a huge number of gamified implementations, but most of them could fail – mostly due to poor design (Burke 2013).

Gamification, understood as the use of game design elements in other contexts for the purpose

of engagement, has become a hot topic in the recent years. (Mora and all, 2015) They did a scientometric study about gamification and found a three-dimensional perspective as shown in

• Background: academic or non-academic.

- Scope: complete gamification processes or focused only on a specific part or step.
- Approach: applicable to a wide spectrum of environments (generic) or designed for a specific business context.

3. GAMIFICATION IN COPYRIGHT LITERACY

Copyright the Card Game have been developed as a new engaging approach to copyright education sessions. Instead of focusing on aspects of the law and thinking about what copyright might stop people from doing, this game encourages them to focus on four positive aspects of copyright. It is based on working in teams to tackle a number of common scenarios. Version 2.0 was released on 5th July 2017 at the CILIP Conference. The Instructions, the Card Deck and Copyright the Card Game v2.0 PowerPoint Slides are available for free reuse under a Creative Commons Non-Commercial license. (Bond, 2017) In our research team we discussed and propose to create more tools to teach Copyright literacy. Following *Copyright and E-learning: further resources* (UK Copyright Literacy., 2016) the team of authors from Romania, Norway and Greece decided to cooperate together and bring a new model of teaching copyright literacy using gamification.

4. USING KAHOOT IN COPYRIGHT LITERACY

Kahoot! is a free game-based learning platform for teachers and all learners., Kahoot!'s new challenge feature lets one assign kahoots as homework, thereby saving time on correcting assignments and making it easy to assess learning progress. (Kahoot, 2017)

ahoot!	Q, Find Kahools 🔒 My Kahools 🗮 My results 🛛 FAQs 🗩 Support	Ø New K! arepand
More action	ors- 0	
•	MASTER CLASS TEST LNSS Armenia&Moldova&Belarus 2018 by arepanovici 1 month ago (Duplicated from arepanovici) ?QUE 9 questors @ Public	Play≻ 0 Challenge⊉ State2 0
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	Copyright Homework Copyright Homework Copyright And Copyright Co	

Personal account generates a homepage with all tests used in educational process. (Fig.1)

Fig. 1 Personal page of Kahoot tests

4.1 COPYRIGHT LITERACY TEST HOMEWORK USING KAHOOT

A test, with all authors contribution, was designed. It included 15 questions for students to be done as home assignment about Copyright homework. (Fig.1) The students were challenged to do their homework in 2 weeks. Students received on email the link to questionnaire. They had to choose right answer online. (Fig. 2)





Fig. 2 Challenge and question in Kahoot homework

4.2 RESULTS

Kahoot provides the results in an excel-sheet. (Fig.3) There were 40 players, and they had 73,93 % correct answers.

· ·	
DREPT DE AUTOR TEST 1	
Played on	1 Apr 2018
Hosted by	arepanovici
Played with	40 players
Played	15 of 15 questions
Overall Performance	
Total correct answers (%)	72.93%
Total incorrect answers (%)	27.07%
Average score (points)	10123.80 points

Fig. 3 General Kahoot results

Regarding final scores, only 2 students got the maximum results. (Fig.4)

DREPT DE AUTOR TEST 1				
Final Scores				
Rank	Players	Total Score (points)	Correct Answers	Incorrect Answers
	1	18896	15	
	2	18479	15	
	3	15828	14	
	4	15700	14	
	5	15264	14	
	6	13643	12	



The final question was about the students 'opinion of using Kahoot in education assessment. 33 students said that it is adapted to their generation, 1 student did not have any opinion, 1 student said that it is not serious and 2 students said that it is a very pedagogical tool.

5. CONCLUSION

The new generation of students prefers assessment online and think this is a good pedagogical approach and adapted to new generation. It is also a non-bias assessment and very easy to obtain results from teachers. This model can be used by any librarians or teachers who teach Copyright literacy.

6. **REFERENCES**

- 1. Burke, B (2013) *The Gamification of Business*, Forbes, Retrieved from http://www.forbes.com/sites/gartnergroup/2013/01/21/the-gamification-of-business
- Kahoot.it. (2018). Kahoot!. [online] Available at: https://kahoot.it/ [Accessed 27 May 2018].Paul Bond. (2017). Copyright: The card game U.S. version. [online] Available at: http://paulbond.info/blog/copyright-the-card-game-u-s-version/ [Accessed 27 May 2018].
- Mora, A, Riera, D., Gonzales, C., Arnedo-Moredo, J (2015) .: A Literature Review of Gamification Design Frameworks, 7th International Conference on Games and Virtual Worlds for Serious Applications (VS-Games), DOI:10.1109/VS-GAMES.2015.7295760
- 4. Pelling, N. "The (short) prehistory of gamification," *Funding Startups (& other impossibilities). Haettu*, 2011.
- Secker, J. and Morrison, C. (2016) From anxiety to empowerment: supporting librarians develop copyright literacy. ALISS Quarterly, 12 (1). pp. 10-13 International survey in Copyright literacy
- Secker, J. (Chair); Morrison, C.; Nilsson, I.-L., Kurbanoglu, S.; Repanovici, A.; Landøy, A. & Todorova, T. Copyright Literacy and the Role of Librarians as Educators and Advocates: An International Symposium (2017). // Models for Copyright Education in Information Literacy Programs, 23 August 2017, IFLA Offsite Session.

- Todorova, T.; Kurbanoglu, S.; Boustany,J.; Dogan, G.; Saunders, L.; Horvat, A.; Terra, A.L.; Landøy, A.; Repanovici, A.; Morrison, C.; Sanchez Vanderkast, E. J.; Secker, J.; Rudzioniene, J.; Kortelainen, T.; Koltay, T.; (2017) "Information professionals and copyright literacy: a multinational study", Library Management, Vol. 38 Issue: 6/7, pp.323-344, https://doi-org.pva.uib.no/10.1108/LM-01-2017-0007
- 8. UK Copyright Literacy. (2016). *Copyright and E-learning: further resources*. [online] Available at: https://copyrightliteracy.org/publications/copyright-and-e-learning/copyright-and-e-learning-further-resources/ [Accessed 27 May 2018].
- 9. Gartner (2013), Gartner's Hype Cycle Special Report for 2013, Gartner

SYNTHESIZER MODEL FOR NON-FORMAL EDUCATION BASED ON SLOPER DIMENSIONS AND ITS APPLICATION INTO IMPLEMENTED ERASMUS+ PROJECT IMPLEMENTATIONS FOR SYRIAN REFUGEES IN TURKEY

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ABSTRACT

This work introduces the Synthesizer Model for Non-Formal Education based on SLOPER dimensions (sources (S), learner (L), organization (O), process (P), educator (E) and result (R)), aiming to apply the Synthesizer model and SLOPER dimensions into two selected Erasmus+ project implementations for Syrian refugees in Turkey. Accordingly, background information on these two projects ("Youth Give Hand to Syrian Refugee Children is a European Union Youth Mobility" and "No Lost Generation Let's Develop a Curriculum for Syrian Refugee Children and Do Not Forget Them") are given. Finally the application results of the model and its dimensions are shared. The results confirm that the Synthesizer Model and SLOPER dimensions have significant merit to represent and explain different non-formal education cases, however need to be tested further for verifying its application in other different contexts.

Key words: Synthesizer Model, SLOPER dimensions, Non-Formal Education, Turkey

1. INTRODUCING THE SYNTHESIZER MODEL AND SLOPER DIMENSIONS

There are several definitions and explanations, regarding non-formal education and its difference from and relation with formal and informal education (<u>www.young-adulllt.eu</u>, <u>www.drsaraheaton.wordpress.com</u>, and Dib, 1988). There is, however, still a lack and need of a comprehensive model with enough explanatory power to address the increased variety.

One model that could have a potential to address this need is the "Synthesizer Model for Non-Formal Education". (Medeni, Soylu, Alaca, 2018) "As a hybrid of entity/agency and process-output perspectives, the model suggests to provide meaning and value for each non-formal case in real life practice as a combination of its positioning, relative to being Informal or Formal, within selected continuums based upon five relevant parameters" or dimensions, namely sources (S), learner (L), organization (O), process (P), educator (E) and result (R), i.e. SLOPER. Examples of extreme values as well as visual representations of

these continuum positioning (as if controls of a synthesiser in a music player) for selected possible cases are provided in the below Picture. (Picture 1)



Picture 1. Synthesizer Model for Non-Formal Education based on SLOPER dimensions (Adapted from EduCitizen Project Meeting Discussions in Helsinki, Finland, 8-9 May, 2018) (<u>http://www.educitizens.org/</u>)

The model is based on the suggestion that non-formal learning is positioned on a continuum between informal and formal learning, sharing "characteristics with both informal and formal learning, but is differentiated enough from both of these approaches to merit it's own category". Accordingly, unlike formal learning "learning that is not provided by an education or training institution and typically does not lead to formalized certification", and, unlike informal learning, "structured (in terms of learning objectives, learning time or learning support), and intentional from the learner's perspective" can be considered as non-formal (<u>https://michaelhanley.ie</u>).

These suggestions are incorporated into the SLOPER dimensions and their respective continuums that are based upon the meta-continuum between informal and formal learning. For instance the continuum of the Learner dimension nestles the intention and will from the learner's perspective and the Result dimension addresses the issue of whether it leads to formal certification or not.. Other related aspects are also spread into the other dimensions (for instance learning time can be considered as part of Process dimension) that addresses other issues to incorporate the variety of the non-formal education cases, providing a more comprehensive perspective with higher explanatory power.

The combination of these continuums then enables visually positioning non-formal education cases as a simple but systematic representation that interlinks practice and theory

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in the related areas. Accordingly, the model could be used as a metric to scale and evaluate different non-formal education cases, and even classify them, thanks to its explanatory power for a wide variety.

However, the model needs to be tested in practice. Accordingly, in this work, the model is applied to selected Erasmus+ project implementations in Turkey, namely "Youth Give Hand to Syrian Refugee Children is a European Union Youth Mobility" and "No Lost Generation Let's Develop a Curriculum for Syrian Refugee Children and Do Not Forget Them". In general project management can be seen as a good example of structured non-formal learning design and implementation (, compared to structured but regular and continuous formal learning programmes, and unstructured and incidental informal learning events. Furthermore, both of these projects were designed and implemented for addressing the learning needs of Syrian Refugees in Turkey, as a recent key work area. For instance, Dorman (2014) acknowledges that "school age Syrians' participation in formal and informal educational activities in host communities is low overall." (p.20). Meanwhile, International Organization for Migration (IOM) (2013) underlines the significance of recognizing formal, non-formal and informal qualifications of third-country nationals (migrants) in their hosting countries. Similar practical and academic works at international, regional, national and local levels acknowledge the necessity for addressing the learning and employment needs of refugee children and their parents, as well as raising awareness at the hosting communities and related networks. Accordingly these two projects developed and implemented by the coauthors provide a suitable opportunity for conceptualizing and implementing non-formal education initiatives positioned between formal and non-formal learning.

2. INFORMATION ON THE PROJECTS FOR THE MODEL APPLICATION

Youth Give Hand to Syrian Refugee Children is a European Union Youth Mobility Project (Project 1) within the frame of Key Action 1. It was implemented and hosted by Digital Magic Youth Group of Ankara Yildirim Beyazit University. The project was funded by Turkish National Agency (TNA) and it had international partners from Italy, Poland, Croatia and Bosnia Herzegovina. It was implemented in 2015 in Ankara, Turkey with the cooperation of youth workers working for different NGOs, universities and youth groups. The project team consisted of academicians who dedicated their time as part of their academic work, and volunteer undergraduate and graduate students.

Within the frame of this youth mobility project, non-formal and informal training sessions were implemented. The project had two different training dimensions. The first training was carried out for youth workers in the meeting facilities of a Private Hotel in Ankara. The training was dedicated to how to design a curriculum and develop non-formal integration and inclusion tools for disadvantaged Syrian refugee children by the Project team who had expertise knowledge and practical experience in the relevant field. The latter training was designed for Syrian refugee children who would be trained by youth workers through the

use of gamified tools. Following the first part of the training it was implemented in a Provincial Public Library in Ankara.

As part of the project, both for children and youth workers, sessions of interactive computer literacy games, Professional Lego Bricks, non-linear digital story creation with open Twinery tool, round table discussions, group presentations, pair works, interactive non-formal energizer games, interactive puzzles, preparation of mind map, gamified cultural integration games, creative drama workshops, gamified instructions for effective library use process were implemented. Project participants took part in reflective active learning atmosphere in which they gained digital literacy, computer literacy, information literacy, and cross-cultural skills. They learnt how to use virtual gaming environments and online role playing communities.

The project was implemented with non-formal and informal methods and tools. The project closure included some aspects that could be considered semi-formal such as Salto YouthPass certificates prepared for the youth workers in the program as part of the skill development objectives, and participation certificates given to the refugee kids and appreciation plaques given to the contributing stakeholders in the closing ceremony. There were some unfair attempts to politicize these common rituals of the ceremony, but the project team resisted these at all costs. At the end, youth workers and children participating in the project reported that they had higher motivation levels and they learnt efficiently through non-formal inclusion tools, achieving the initial aims of this educational project. (Picture 2).



Picture 2. Snapshots from the Implementation of "Youth Give Hand to Syrian Refugee Children Project" (Project 1) in 2015 (Digit-al Magic Youth Group Archive).

Digital Magic Youth Group of Ankara Yildirim Beyazit University implemented another Youth Mobility Project in Erasmus Plus field entitled as "No Lost Generation: Let's Develop a Curriculum for Syrian Refugee Children and Do Not Forget Them" (Project 2). It was also funded by TNA (although the last instalment to cover the implementation expenses has not been yet received), and had participants from Sweden, Jordan, Latvia and Turkey. The Project aimed to train youth workers who are working with refugees and Tunç Medeni, Demet Soylu, Tolga Medeni, Ratko Knezevic: Synthesizer Model for Non-Formal Education Based on SLOPER Dimensions and its Application into Implemented Erasmus+Project Implementations for Syrian Refugees in Turkey

coming from organizations dealing with disadvantaged groups. It was implemented in 2017 in the meeting facilities of a Private Hotel in Ankara. The project had both non-formal and formal training sessions. The participants attained curriculum and tool development carried out both with non-formal and formal methods. The project team consisted of a few invited official experts and speakers and selected academicians that dedicated their time as part of their academic work, as well as assisting graduate level students who voluntarily contributed to the project tasks.

In the non-formal part of the project, participants played energizer games using Salto-youth tools and Lego Bricks. Team building and group dynamic games were played. These were the sessions where participants had the highest motivation. Team discussions, gamified tools, peer activities, drama workshops proved to be effective as they were embedded with non-formal psychological approaches. However, formal part of the youth mobility training course proved to be less effective. In this part, for instance, experts who had experience in curriculum designing and learning methods, delivered a speech on designing a Moodle, and the importance, types and content of e-learning approaches and applications. Even though experts had profound knowledge and experience in the field, and topic was quite interesting and enriched, participants were observed to be less comfortable with the educational method and they claimed that formal part had not provided them with the sufficient interaction and reflection with their peers. As a consequence, they informed the project team that nonformal part enabled them to learn better through by trial, and real interaction. Project also had semi-formal digital workshops which aimed to develop the competency of youth workers to design digital learning tools for Syrian refugee children. Participants were also instructed how to use digital tools, which was considered to be the formal part and then they used the digital tools and prepared their own models in accordance with the given guidelines, which was considered to be the non-formal part. Differences in educator methods and learner expectations, nevertheless, caused certain challenges to meet the expected learning outcomes, resulting in even sometimes unexpected superficial results, even if they became more informal than formal (Picture 3).



Picture 3. Snapshots from the Implementation of "No Lost Generation: Let's Develop a Curriculum for Syrian Refugee Children and Do Not Forget Them" Project (Project 2) in 2017 (Digit-al Magic Youth Group Archive).

3. APPLICATION OF THE SYNTHESISER MODEL AND SLOPER DIMENSIONS INTO THE PROJECT CASES, RESULTS AND SUGGESTIONS

Based upon the explanations of the projects above, the below illustrations provide the results of our application of the Synthesiser Model and SLOPER dimensions into these non-formal education project cases (Picture 4 and 5), giving explanations for how they are constructed so that they can exemplify the application process that could be used for other cases in the future. Accordingly, the model and its dimensions provides a realistic visual representation of the respective non-formal education project cases, based on the subjective judgements of the co-authors that were also involved in the design and implementation of these projects. Thus, currently these case applications exhibit the outcomes of an intuitive and practical approach, which could be complemented with a semi-sensitive quantitative scaling (, for instance between -10 and +10 for the extreme values, while + or -1 does not have to provide a meaningful difference for the positioning on the continuums). How the combined positioning with respect to more than one continuum (For instance those of P,E,R in Picture 4 and O,P,E in Picture 5) could also be considered to provide additional insights. Even, the positioning of the circles below the respective continuum lines could be given certain meanings (For instance that of R in Picture 5 could point out not fully meeting the target learning outcomes).



Picture 4. Application Results of the Synthesizer Model and SLOPER Dimensions to the Project 1

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Picture 5. Application Results of the Synthesizer Model and SLOPER Dimensions to Project 2

Similar application examples were also shared with the co-authors' colleagues in the EduCitizen project. While there were mixed feedbacks, the potential values of the suggested model and dimensions as a non-discriminating (no one case is better than another), validating and even accrediting tool for non-formal education were recognized, while these may also enable to apply certain informal practices into formal cases, paving the way for new educational services and tools (EduCitizen Project Telemeeting, 18.05.2018).As a result, this work confirms the potential merits and application areas of the Synthesiser Model and SLOPER dimensions for the explanation and evaluation of the non-formal education cases, although they need to be tested further with a wide variety of additional case applications. Consequently, synthesising different continuum parameters can provide a significant contribution to the existing models as a more comprehensive and clear conceptualization and representation for various types of existing or possible non-formal education practices. The SLOPER dimensions upon which the model is based can also be a useful tool to evaluate and classify these non-formal education cases.

While the origin of the synthesiser, or synth, metaphor has been explained at the Introduction, certain metaphorical connotations of the SLOPER is also note-worthy for further consideration in the future. Like a tailor's sloper, an educator's sloper could be a useful tool to design products or services that are structured but still allows for openness, flexibility and personalization. It could also be used as if for metaphorically determining the slope of an institutional or personal learning curve. After all slope is determined by the direction and steepness that could stand for learners' experiences for learning new knowledge.

4. LITERATURE IN ADDITION TO INTEXT CITATION LINKS

1. Claudio Zaki Dib (1988) FORMAL, Non-Formal And Informal Education: Concepts/Applicability "Cooperative Networks in Physics Education - Conference Proceedings 173", American Institute of Physics, New York, , pgs. 300-315. (Last access, 20.05.2018)

- Dorman, S. (2014) Educational Needs Assessment for Urban Syrian Refugees in Turkey https://www.alnap.org/system/files/content/resource/files/main/29-yuvaneedsassessment-report-final.pdf (Last access, 20.05.2018)
- IOM (2013) Recognition_of_Qualifications_and_Competences_of_Migrants http://ec.europa.eu/social/BlobServlet?docId=9933&langId=en (Last access, 20.05.2018)

Medeni, Soylu, Alaca, (2018) Modelling Non-Formal Learning. (Last access, 20.05.2018) https://www.linkedin.com/pulse/modelling-non-formal-learning-tun%C3%A7-medeni/

FAKE NEWS AND CRITICAL THINKING IN INFORMATION EVALUATION

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Abstract

In the post-truth era we are constantly bombarded with "news" which is fabricated, distorted, and massaged information, published with the intention to deceive and mislead others. Such "news" has come to be known as "fake news". The influence of fake news can have profound socio-political and cultural effects when translated into action. The ability to distinguish between real facts, fabricated stories, rumours, propaganda, or opinions is of paramount importance. The rapid proliferation of information through social media is now the norm. In this paper we consider the challenge of preparing students, in developing skills for recognising mis-information, dis-information and mal-information. We argue that critical thinking for evaluating information should now be considered a basic literacy, equally important to literacy itself, as well as information and information technology literacies.

In this paper we revisit Bloom's taxonomy of cognitive skills and represent what a learner can achieve at each level. We customise the traditional moral and ethical concepts suggested by the US Content Subcommittee of the ImpactCS Steering Committee to flag the ethical concerns over mis-information, dis-information and mal-information. We report on current levels of awareness and practices at the authors' five higher education institutions, and reveal varying levels of awareness of the significance of critical literacy and different practices in each location. The paper concludes with an outline of future work.

Keywords: critical thinking, critical literacy, fake news, post-truth, ethics, intellectual property, the role of librarians and academics

1. Introduction

Post-truth, which was declared by Oxford Dictionaries as its international word of the year in 2016, is defined as "denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (OED). In such circumstances, fake news finds fertile ground and appeals to emotions and personal beliefs. The Council of Europe defined fake news as, "information deliberately fabricated and published with the intention to deceive and mislead others into believing falsehoods or doubting verifiable facts," and was cited by Wardle and Derakhshan (2017)." This definition

has been adopted by the Ethical Journalism Network (EJN), (https://ethicaljournalismnetwork.org/tag/fake-news).

Post-truth affects all areas of endeavour. For example, Melville (2017) asserts that "Science is not immune to appeals to emotion and belief rather than fact". Marmot (2017), in his paper Post-truth and Science published in the Lancet medical journal, emphasises that "Truth is central to the core mission of the medical and scientific literature. What is the worst sin, work-related, a scientist can commit? Lying, stealing someone else's ideas is reprehensible but it acknowledges the importance of the ideas in the pursuit of truth. Lying, falsifying evidence means that we have no basis for communication. The whole enterprise crumbles."

The misappropriation of intellectual property also constitutes a form of truth manipulation, which can have far-reaching consequences. As most are aware, plagiarism amounts to stealing someone else's ideas and work, and takes two forms: it can be intentional such as submitting as your own someone else's unpublished work or unintentional, which arises where there is poor awareness of best referencing and citation standards and practices leading to acts of plagiarism (Roig, 1997). A study entitled "Intellectual Property and Education in Europe" covering public and private education was carried out 2013-2014 by the Office for Harmonization in the Internal Market (2015). The study carried out 40 field studies, analysed 36 questionnaires and over 1.500 documents from the National Ministries. The research objective was to investigate how Intellectual Property Rights (IPR), such as trademarks, designs, patents and copyright, as well as Intellectual Property (IP) related issues, such as ownership, authorship, originality, licensing, confidentiality, trade secrets and branding are being taught in primary and secondary schools (both general and vocational) in the 28 EU Member States. One interesting finding of the survey was that between 35% and 50% of young Europeans display attitudes which favour illegal downloading from the internet. Similarly, a study including 100 Greek Information Technology (IT) students showed that 52% do not have any hesitation to make unauthorised copies of commercial software to use at their homes (Voutsa et al, 2006).

The results of the "*Intellectual Property and Education in Europe*" study showed that no specific standalone IP subject or comprehensive IP education programme exists in the current official curricula of the countries analysed. Some IP and IP-related themes are however, integrated into one or several subjects throughout all education levels.

IPRs are central to commercial success due to the fact that they give owners the opportunity to protect their creation(s). Illegal use and production of products covered by IPR, (called IPR infringement which covers patents, trademarks, designs or copyright) are increasingly counterfeited through Information and Communication Technologies (ICTs) and the Internet.

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IPRs are essential for stimulating innovation and creativity. Knowledge assets usually have the property of non-rivalry in consumption, but in some cases, they also have the property of non-excludability to access (Chou, and Passerini, 2009). In these cases they are called public goods. When everyone can freely access knowledge goods, knowledge may suffer from the typical free-rider problem that can lead to its under-production. In these cases those who contribute to the creation of knowledge are less motivated to continue to do so because they have no rewards or benefits and/or others do not contribute equally (thus free-ride on their production/innovation). One solution to the under-production problem resulting from freeriding is to increase the incentives for knowledge creation with a stronger regime of IPRs. This, however, creates monopolistic profits given by IPRs and leads firms to focus on knowledge as a club (private) good rather than a public good. Examples are pay-per-view option of cable TV, where only the members of the club have exclusive access to the good. An IPR regime that is too strong may limit the circulation of knowledge and impede further innovation, particularly in the developing countries. In contrast, the recent development of Creative Commons/Free Software movements can improve free access to knowledge. "For sustained (knowledge) development to take place, countries need to establish mechanisms that facilitate the circulation of data, information and knowledge across developing and developed nations" (Chou, and Passerini, 2009). Samuelson (1994) provides arguments in favour of self-plagiarism, which seems to be more acceptable than plagiarism of somebody else's work.

Willinsky and Provençal (2013) conclude their study for intellectual properties of learning: "Our belief is that a critical understanding of literacy, for the digital era, can benefit from a greater regard for intellectual property as a way of thinking about the role of *the university in using public and private resources in creating value, sharing knowledge and advancing learning.*"

The ethical implications around fake news are just as important; thus educators have a responsibility towards their students to foster critical thinking for evaluating information, which in turn informs their decision making. The ability to distinguish truth from falsehood is important in many contexts and at many levels i.e. the personal, group, project, organisational, political, and societal. Anderson and Rainie (2017), quoting Jamais Casgio, warn that "The crisis we face about 'truth' and reliable facts is predicated less on the ability to get people to believe the *wrong* thing as it is on the ability to get people to *doubt* the right thing."

The societal impact of fake news can be immense as it creates *information pollution*. Wardle and Derakhshan (2017) warn that the long-term implications of dis-information campaigns are designed specifically to sow mistrust and confusion and to sharpen existing socio-cultural divisions using nationalistic, ethnic, racial and religious tensions. In their Information Disorder Report they identify three types of untrustworthy information namely:

mis-information, dis-information, and mal-information, as shown in Figure 1 which also shows the overlap between these three types, as well as their respective potential impacts as defined by the Council of Europe.



Figure 1: Information Disorder [Source Wardle and Derakhshan, 2017]

Dis-information: Information that is false and deliberately created to harm a person, social group, organization or country.

Mis-information: Information that is false, but not created with the intention of causing harm.

Mal-information: Information that is based on reality, used to inflict harm on a person, organization or country.

2. The Challenge of Developing Critical Thinking

2.1 Critical Thinking: A basic competency

The challenges posed by the proliferation of technologies, platforms and media through which information in multiple formats is created, propagated, and shared, exacerbate an already difficult problem. It is thus imperative for everybody, but for educators in particular, to support the development of critical thinking skills in their students. Elli Georgiadou, Harjinder Rahanu, Kerstin Siakas, Claire McGuinness, J. Adam Edwards, Vanessa Hill, Nawaz Khan.Padraig Kirby, Jerald Cavanagh, Ratko Knezevic: Fake News and Critical Thinking in Information Evaluation

Critical thinking is one of the cognitive skills proposed by Benjamin Bloom in his taxonomy which he developed in 1956 (Bloom, 1956). It has been used extensively by educators to classify learning objectives, and as a tool for assessing outcomes. Subsequent extensions, updates, enhancements, and implementations to specific knowledge domains, have been proposed by many researchers and educators over the years, with more recent contributions from Anderson and Krathwohl, (2001); Berki and Valtanen (2007); Keene, et.al., (2010); and Adams (2015).

Berki and Valtanen (2007) asserted that "critical thinking is now widely seen as a basic competency, akin to reading and writing skills, which need to be taught. Critical thinking is a skilful activity, which meets standards of clarity, relevance, adequacy and, thus, is contrasted to unreflective thinking".

Bloom's taxonomy with some additions (shown in the left (upright) triangle in Figure 2) suggests that critical thinking is necessary from the fourth level, i.e. Analysis. The inverted triangle in Figure 2 depicts the learning outcomes that a learner can achieve at each level. The hierarchical representation proposed by Bloom, and used widely for over for over 60 years, denotes that each level rests on the foundations of all the previous levels. The inverted hierarchy we added here (second triangle) is a schematic representation of the things a learner can achieve at each level. As the levels rise the learner is not only able to do more but also demonstrates higher level cognitive skills.



Figure 2: The learner is able to.....[Based on Bloom's Taxonomy] Constructive alignment between level of complexity and learning outcomes.

Fisher (2001) cited in Berki and Valtanen (2007) explained that critical thinking skills require the ability to interpret, analyse and evaluate ideas, arguments and observations. Critical thinking also requires skills in thinking about assumptions, in asking pertinent questions, in drawing out implications, all of which are necessary skills for students in all fields of study.

2.2 Critical Information Literacy

In April 2018, the Information Literacy Group of CILIP in the UK published a new definition of Information Literacy to update its widely-used 2004 version. The new articulation places critical thinking and discernment at its core, and reflects the more nuanced definitions of recent years which focus on context, individual agency, and the empowerment of citizens, rather than generic sets of skills and abilities to be acquired (e.g., the ACRL 2015 Information Literacy Framework; UNESCO's Media & Information Literacy definition):

"Information literacy is the ability to think critically and make balanced judgements about any information we find and use. It empowers us as citizens to reach and express informed views and to engage fully with society" (CILIP Information Literacy Group, 2018).

The ability to analyse and interpret media messages, irrespective of channel or format, is inextricably linked to self-determination, freedom of expression, democracy, and ethical information behaviour; UNESCO cites Media & Information Literacy as "an important prerequisite for fostering equitable access to information and knowledge and promoting free, independent and pluralistic media and information systems" (UNESCO, 2017), while CILIP emphasises the central role of Information Literacy in reinforcing "democracy and civic engagement" (CILIP Information Literacy Group, 2018).

The power of media and increasingly, *social media*, in influencing world events was highlighted in recent times by two unprecedented political events; firstly in June 2016, the result of the UK referendum to leave the European Union, and secondly, the outcome of the US Presidential Election in November 2016. While official polls had consistently predicted the opposite outcome in both cases, the deep polarisation that had been evident on social media channels told a different story, and led to concerns about the "filter bubble" effect of social media applications and search engines such as Twitter, Facebook, and Google (Pariser, 2011) and their potential influence on voter behaviour and electoral outcomes. The filter bubble phenomenon refers to the increasing personalisation of Internet search engines and social media feeds and timelines, which employ algorithms to channel content towards users that is aligned with their personal values, beliefs, emotions, and preferences, and to decrease exposure to contradictory viewpoints and perspectives, thus creating a sense of intellectual isolation that may have far-reaching societal and political effects if translated into action. Pariser describes them as "*predictive engines, constantly creating and refining a theory of who you are, and what you'll do and want next" (2011, p.9)*. This digital echo

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chamber effect is thus only amplified by the rapid, in some cases viral, circulation of unsubstantiated, biased or deliberately falsified media reports – or fake news, as it is now commonly known. According to Gunther, Nisbet & Beck (2018), a study which analysed almost 25,000 social media messages shared by Michigan voters during the US presidential election, "identified nearly half as 'unverified WikiLeaks content and Russian-origin news stories' that fall under the definition of propaganda based on its use of language and emotional appeals." Although it is difficult to measure the precise influence of fake news on voter behaviour, the rising number of people who obtain their news primarily from social media (Gottfried & Shearer, 2016) suggest that it is a concern that should be taken seriously.

When viewed from this high-stakes perspective, it is clear that information literacy must encompass more than the ability to discern "good" from "bad" information along the traditional academic lines of authority, currency and relevance, although these are still important criteria; rather, in this context, critical thinking should now extend to awareness and understanding of the dominant power structures that control information production and dissemination, the socio-political environments in which authority is constructed, and the interests and agendas of those who are responsible for the circulation.

These perspectives are captured in the idea of critical information literacy, which is defined as "a way of thinking and teaching that examines the social construction and political dimensions of libraries and information, problematizing information's production and use so that library users may think critically about such forces" (Tewell, 2018). Critical information literacy purports to cultivate a critical consciousness in students and a sense of personal agency in enacting social change in the world, and encourages them to "identify and act upon oppressive power structures" (Tewell, 2015, p.36). It requires students to critically examine the status quo in any given context, and to ask difficult questions about the prevailing socio-political structures that privilege some, but exclude others.

To this end, the Global Digital Citizen Foundation has published a lengthy "critical thinking cheat sheet" of questions to ask when new information is encountered; these are questions that include, but also go beyond, the surface-level evaluation of quality, to interrogate the assumptions, privileges and agendas that underpin media messages (Global Digital Citizen Foundation, 2016). For example, one can ask:

Who benefits from this? Who is it harmful to?

What is a counter-argument? What can we do to make a positive change? Where is there most need for this? Where in the world would this be a problem? When is this acceptable / unacceptable? Why should people know about this? How do we know the truth about this? How can we change this for our good? The perspective of critical information literacy challenges the traditional conceptions of good and bad information, and compels students to ask not only if information is reliable, truthful and trustworthy, but also what or whose cause it serves, the context in which it arose, and who may be disadvantaged by it. In an era when "fake news" may not be factually incorrect but may be spun to convey a particular agenda or point of view (media bias), the ability to discern the wider context and interpret the true meaning of the information is more valuable than ever.

3. Ethical Issues & Critical Information Literacy

Critical information literacy dictates that in order to become a responsible creator, disseminator and consumer of information, then one must be able to examine and understand the standards for the rightness and wrongness of actions.

3.1 Ethical Framework and Critical Information Literacy

The US Content Subcommittee of the ImpactCS Steering Committee (Huff et. Al., 1995) advocated a framework presenting a set of traditional moral and ethical concepts that could be used to flag potential ethical issues in a given concern. In terms of personal and professional responsibility, the committee recommended the following six traditional moral and ethical concepts:

1. Quality of life	2. Use of Power
3. Risks and reliability	4. Property Rights
5. Privacy	6. Equity and Access

Table 1 shows the theoretical framework developed by the US Content Subcommittee of the ImpactCS Steering Committee which we customized. The framework specifies six moral and ethical concepts, shown in Column 1, that can help identify the social, legal and ethical issues invoked by the creation, ownership, dissemination and utilisation of information. We added brief commentaries, shown in Column 2. The ethical concepts listed are at the heart of critical information literacy, in promoting awareness and understanding of the power structures, human rights and equality issues, and overall impacts on humanity that are inherent in the production and consumption of information.

Table 1: Traditional moral and ethical concepts suggested by the US Content Subcommittee of the ImpactCS Steering Committee customized to flag the ethical concerns over misinformation, disinformation and malinformation.

Ethical Issue	Commentary
Quality of Life	The concept of quality of life must be taken into consideration when examining ethical issues concerning Information Literacy (IL) and critical thinking. IL is defined as a fundamental basic human right yet there are many who do not have the right to exercise it. Information competencies

	are a key factor in lifelong learning. Information Accessibility and IL can help disadvantaged groups in both the developed and developing worlds improve their opportunities for achieving their intellectual potential, playing a full role in society, reducing isolation and social alienation; promoting community harmony and reducing tensions.
Use of Power	There is the long-standing problem: who gets to decide what is or is not a lie. For example, can a nation state author and implement new legislation, which makes the dissemination of "fake news" punishable via imprisonment? What if authorities are sanctioned to issue heavy fines if anyone is found to be sharing news on social media that the authorities decide is false? The answer, at first glance, may seem obvious. But this principle of <i>Use of Power</i> prompts the important question: who is the ultimate arbiter? Free Speech is a fundamental human right and so should the responsibility of arbitration be entrusted to: mainstream media organisations, governments, social media platforms, etc.? When tackling the concerns over "fake news" we must ensure that this does not become a smokescreen for silencing genuine free speech.
Risks and Reliability	All information is used in a world where consumers, users, and the public in general rely on its accuracy, authenticity and fidelity. Bias and error in information must lead information professionals to become familiar with the inevitable risks associated with the utilisation of information. Questions over who is held accountable for errors in information; what should be the reparations to injured parties; how to measure the credibility of an author; etc. will always involve ethical dimensions and information professionals should be prepared for them. Decisions based on misinformation, disinformation and malinformation can lead to implementation of solutions that have adverse effects at a personal, community and national level.
Property Rights	The question "who owns the information" may lead to simple ethical issues of giving credit or if appropriate, to ask permission to use the intellectual and creative ideas of others are not the only concerns that information professionals and citizens will have to deal with in the domain of property rights. This principle of Property Rights also demands careful thought regarding property rights. This principle invokes thought provoking questions, such as: who in society and communities are permitted to create information; what are the just and fair prices for the exchange of information; and who owns the channels through which its distribution is controlled?

Privacy	The Right to Privacy is explicitly stated in the UN Universal Declaration of Human Rights. In a digital, online world this principle holds truer. For example, the improper sharing of user data by social media platforms with analytics firms tied to presidential campaigns are a gross violation of such a scared, enshrined principle. Safeguards need to be implemented, enforced and policed to ensure that general data protection rights are not abused in order that citizens are confronted by fake news that is created and disseminated by authorities/organisations.
Equity and Access	There is a need to make the distinction between fake news and media bias. The latter is defined by Levasseur (2008) as "the media exhibiting an unjustifiable favoritism as they cover the news. When the media transmit biased news reports, those reports present viewers with an inaccurate, unbalanced, and/or unfair view of the world around them". In other words a misrepresentation of real news and facts in order to push a partisan narrative. The principle of Equity and Access would demand that every citizen/community has a right to have their narrative respected, disseminated and shared equally. The principle demands that their respective narratives are not omitted; are fairly selected; fairly promoted and labelled. In discussions over fake news and media bias in a digital world, what must not be lost sight of is that 80% of the world's population lives in abject poverty where the world's poor are excluded from the information revolution outright. Therefore, information professional must be instructed that their opinions on these matters should not simply be based on empirical evidence, but must also be grounded in careful ethical reasoning about issues of equity and access in current society.

Thus, in order to become more responsible information professionals and citizens in general it is imperative that, in supporting critical information literacy development in students, both learners and teachers are made aware of the moral and ethical concepts spelt out in the framework presented in Table1. It is only through comprehending the issues raised by the framework that trainees and students can achieve a better understanding of the social, legal and ethical issues concerning fake news and mis-information, dis-information and mal-information.

4. Critical Literacy: A case study

4.1 Context

The Librarians at Middlesex University typically deliver 1900 hours information literacy teaching each academic year. This is a 119% increase on teaching hours compared with ten

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years ago and demonstrates the increased emphasis on information literacy as an academic and lifelong skill. Our librarians have been proactive in transforming their pedagogical practice, through a greater awareness of learning and teaching theories and the use of activities and games-based learning (Edwards, 2016).

Our experience is that students are no more skilled at critically evaluating information than previous generations. Despite their increased use of technology and immersion in a digital world (White and Le Cornu, 2011), they continue to lack the "digital wisdom" (Prensky, 2009) to use information judiciously. As Goldstein (2015) comments, there is a "tendency to view digital skills in largely technical, ICT terms, without paying sufficient heed to the necessarily close relationship between digital and information literacies". Yet this is not enough in a globally connected society which must focus on information use, not the use of information technology (Johnston and Webber 2003, p.335). What is needed are citizens who have developed "…a high-level, reflective understanding of information situations, and to generate strategies for evaluating, analysing and assimilating that information as needed and at a time it is required…" (Secker and Coonan, 2011, p.4).

This raises the question as to whether academic staff also have the required information literacy expertise. In our experience there is a circular issue: Academic staff who recognise the need for good information literacy and who collaborate with the Librarians to develop the curriculum will develop information literace students. The risk is that academic staff who have had little or no information literacy development themselves, assume this is something which simply "develops gradually and intuitively" (McGuinness, 2006) or by "osmosis" (Weetman, 2005). McGuinness (2006) notes that there is on the one hand an assumption that students will voluntarily avail themselves of the information literacy teaching on offer but, also a perception that students are sometimes extrinsically motivated to do the minimum required to pass the assessment. There is an inherent conflict here.

So how can a university develop critical information skills in students which sustain them through their studies, and into the workplace as well as becoming a valuable life skill? One option might be to utilise an information literacy curriculum such as ANCIL (Secker and Coonan, 2011) as is being used at the University of Maynooth in the Republic of Ireland (Dodd, 2017). However, this approach requires institutional support and commitment at the highest level and significant changes to the curriculum. The pragmatic alternative, developed over the past seven year at Middlesex University Library, has been to significantly change how we teach, using games and activities as the vehicle to encourage reflection, engagement and interaction in information literacy workshops (Edwards and Hill, 2016, pp. 74-94). An example of a gamified activity used by Librarians at Middlesex University is provided in the next section.

4.2 The game

This simple card sorting game is used to encourage thinking and reflection about the integrity of information and was inspired by Amanda Clossen, Learning Design Librarian,

from Penn State University, USA (Closson, 2014). The game comprises 22 laminated cards and is ideally played in groups of three, so for example 10 sets will be required for a class of 30.



Figure 3: Example cards used in activity

Each set contains 2 black cards labelled Authority and Currency, plus a duplicate set of 10 cards depicting a range of information sources from Tweets and blog posts through to conference proceedings and Movies.

The activity starts with a discussion around the meanings of the words currency and authority in the context of academic information.

Currency: How old is the information? When was the information last updated? What has been updated?

Authority: Who is the author? What are their qualifications and status as a source of information? How has the quality of the information been verified?

Each group is then given a pack of cards. Students rank each set of the information sources regards their Authority and Currency.

The way the students rank the resources will vary, and these choices are vital to prompt further discussion and reflection during feedback for example: Which source offers the most authority? Why? Which source has the least currency? Why? Do blogs and Tweets have authority? Are eyewitness accounts always current?

Although there are no right or wrong answers the sorted cards will look something like what is shown in Table 2:

Authority	Currency
Academic journal	Eyewitness account
Conference paper	Tweet
Book	Blog post
TV documentary	TV news report
Newspaper article	Newspaper article
TV news report	TV documentary
Blog post	Conference paper
Tweet	Academic journal
Eyewitness account	Book
Movie	Movie

 Table 2: Possible ranking of information sources

This game can be freely downloaded from

http://libguides.mdx.ac.uk/MDXGames/Computing. Full instructions on how to use it are in the 'Complete Overview' document on the same web site:

http://libguides.mdx.ac.uk/MDXGames.

4.3 The value of this approach

This approach has significant advantages for the teacher librarian. The activity is student centred and uses a constructivist approach (Biggs, 2003). Through the activity we scaffold on their existing knowledge of information sources and introduce them to academic sources that they will be less familiar with including academic journal articles and conference proceedings. Students learn through discussion, reflection and experimentation in a "safe environment" (Walsh, 2014, p.41). The librarian is facilitating rather than didactically presenting information. For the teacher librarian this approach also means that no class is the same as the discussion varies depending on the students' experiences and knowledge. This makes for interesting teaching and keeps the sessions fresh.

The activities succeed because they "make the not-so-fun work into something less painful and even enjoyable" (Kim, 2012, p. 468). This is consistent with the constructivist approach to teaching used at Middlesex University whereby "…everything the learner perceives is

tested against their prior knowledge; if the perceived content is consistent with the learner's mental model of the world, it becomes new knowledge and is assimilated with what the learner already knows" (Frazer et al., 2014, p14).

4.4 Taking this forward

The case study above demonstrates effective changes in library information literacy practice. We find that academic staff participating in these sessions not only see what the students are doing, but also improve their own information literacy (Edwards and Hill, 2016). This leads to further development as academic staff see the potential of what we do. A session on the use of games and activities in information literacy is shortly to be run by the Librarians as part of the PGCert Learning and Supporting Teaching in Higher Education programme at Middlesex University. Such collaboration and dialogue, on both sides, is vital if we are to design in good practice and equip the students with the skills they need to succeed (Saunders, 2012). The ideal outcome is, of course, that information literacy becomes an embedded and integral part of all curricula so everyone can benefit from enhanced information literacy.

5. Current Practices

5.1 Middlesex University, London, UK

In addition to the case study at Middlesex University, described in section 4, curriculum development (particularly for postgraduate programmes) as well as teaching and learning at Middlesex University is very much aligned to Bloom's taxonomy and its related learning outcomes outlined in Figure 2., and the Bologna principles (Murtonenet al., 2017). Information literacy is embedded into the course curriculum so that the students can engage with the process of critical literacy; it involves:

- (1) Designing the course-work specification carefully where the students are encouraged to move to the level 4 (Analysis) and level 5 (Evaluation) stage in Bloom's level of complexity.
- (2) The critical literacy training is embedded in content delivery and supported by library services where on-hand training is provided to the learners demonstrating 'why', 'who', 'what' and 'how' process of critical thinking.
- (3) Learners are encouraged to evaluate the 'information obtained' using different evaluation metrics, i.e. impact factor, number of citations made to an article etc. Using 'impact factor' as a parameter to determine the 'worthiness' of information is a part of the requirement of assessment specification.
- (4) 'Critical Thinking' and 'critical literacy' programme is delivered by the Library Services as a university wide 'critical thinking' awareness programme. 'Literacy service' offers a service to the learners to provide formative feedback on the students' writing, this includes, i) identifying gaps in writing; ii) Commenting on paraphrasing and plagiarism.

(5) A final presentation of learners' work demonstrates their ability to explore, synthesise, analyse and evaluation of information obtained and perceived.

Embedding 'critical thinking' into the course curriculum has proven very effective. Learners demonstrate the critical thinking ability in all domain of learning.

From a broader perspective, Middlesex University has also been participating as coordinator or partner in a large number of EU Projects for Digital Libraries, Curriculum Development and Pedagogic knowledge transfer involving large number of EU member countries and various countries from the Balkans, the Caucasus, Central Asia, and the Middle East. Through these knowledge transfer activities it has been established that there exists substantial variation of both awareness and practices in the development of critical thinking and critical literacy not only among European countries but across the European Higher Education Area (EHEA). This uneven development coupled with the recent proliferation of fake news present considerable challenges.

5.2 ATEI Thessaloniki, Greece

At ATEI of Thessaloniki individual lecturers provide guidance on research methods, paraphrasing and citing sources, especially when they supervise final year degree projects or Masters dissertation. In addition, the library provides seminars in plagiarism. In different modules these issues are mentioned as good practice for students when handing out assignment specifications, final year projects or other tasks required by the curricula. In the first semester of the department of Informatics there is a module entitled 'Communication Skills' where plagiarism is one of the themes discussed.

5.3 University College Dublin

In UCD, information literacy and critical thinking are viewed as core academic, professional and lifelong skills, as well as desirable graduate attributes; the UCD Library Strategy 2016-2020 presents one of its key priorities as "Enabling students to develop the aptitudes and skills necessary to critically and ethically navigate the information environment, and to flourish in the rapidly evolving knowledge, information, digital and global societies" (p.9).Through working with academics to embed information literacy into the curriculum. redeveloping library space to facilitate individual and group-based learning, and creating a wide-ranging programme of instruction, the library plays an invaluable role in the development of these skills in students at all levels. Students avail of LibGuides, online tutorials and face-to-face workshops to meet their instructional needs. Undergraduate students on the university's BA and BSc Social Science programmes may also take the level one "Digital Judgement" module, which is offered by the School of Information & Communication Studies, and aims to foster critical digital and information literacy skills in first year students, who are making the challenging transition from secondary to tertiary education. In this module, students are introduced to core issues including digital scholarship, information evaluation, the academic web, critical information literacy, digital footprints, and online security. Through a blend of face-to-face classes, team digital projects,

e-tutorials and independent reading, students learn how to operate effectively, intelligently, ethically and safely in the digital world.

5.4 University of Bihac, Bosnia and Herzegovina

There had been no awareness on Information Literacy (IL) in Bosnia prior to the launch of the RINGIDEA European Union Tempus Project [517117-TEMPUS-1-2011-1-IE-TEMPUS-JPHES (2011-2506/001-001]. The aims of the project, which have been fully achieved, were to: Develop Information Literacy (IL) programmes of Lifelong Learning (LLP) and their use in curricula as appropriate in Western Balkan countries; harmonise the IL programmes with those currently active in Western Balkan countries, including the integration of IL programmes with existing initiatives; strengthen the capacities of higher education institutions for the strategic planning and implementation of IL programmes to develop transferable skills for a competitive, dynamic, knowledge-based economy; develop IL policy, guidelines, goals, missions, e.g., guidelines for developing IL programs, online IL modules, disseminate information about the approaches to IL development; and ensure the sustainability of project results through workshops, publications, project website, interaction with National and International stakeholders, and society at large.

Throughout the lifetime of the RINGIDEA project great strides were taken in Bosnia and the Western Balkans region. At the same time the annual Western Balkan Information Literacy Conference (WBILC) has been providing a forum that brings experts to share knowledge, exchange ideas and create a large international network of IL Practitioners who together can deal with challenges posed by new technologies, and practices.

Although great steps forward have been achieved, there are still obstacles that need to be addressed, such as the lack of professional staff in libraries, for example in the University Library of Bihac, Bosnia and Herzegovina, there are only two graduated librarians working. That was the reason to continue with further education of libraries' staff and development of libraries network support system in the area of Western Balkan through another Erasmus + project (LNSS-Library Network Support System in Western Balkans) providing staff development in the libraries.

Academics also need to develop curricula on Critical Literacy so that, together with librarians, they can face the difficult challenges of developing critical thinking for the evaluation of information.

5.5 Limerick Institute of Technology, Ireland

At Limerick Institute of Technology (LIT) Library Service, information literacy (IL) development is strongly supported and cultivated and is incorporated into a number of key Institute-wide policies at both the level of the organisation and at the library level. The Library has been implementing Information Literacy Programmes at the Institute now for over 15 years, focusing on key areas such as Referencing, Citation and Avoiding Plagiarism, Information Discovery, Literature Review and many others. LIT are also highly active in the area of European Union funded projects covering the Information Literacy and Library

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domains. Hence they have a dual focus. On the one hand they develop and embed Information Literacy and modernise libraries in large scale EU library projects in regions such as the Western Balkans, through Central Asia, Asia and many parts of the Russian Federation. At the same time they ensure delivery of the Information Literacy Programme on the institutional level for the benefit of LIT students and staff.

The IL programme at LIT is comprised of a number of development strategies, which incorporate working closely with academics to deliver in class IL teaching, Online Information Literacy Modules, workshops, face to face appointments with subject liaison specialists, IL lunchtime classes. The Library has published a number of policies and procedures in the Information Literacy domain covering areas such as Referencing, citation and avoiding plagiarism that have been adopted by the Academic Council of the Institute as the official campus-wide policy and authority in this area. The Library has also shared these publications with universities and libraries in countries in regions highlighted earlier where they have been adapted thus cultivating important exchange of experience and knowledge sharing on the international level.

In developing information literacy on the institutional, national and international levels, LIT are committed to embedding IL into curricula in organizational structures using various methods to suit the context, as have been solidly explained by Peacock (2004) and her three pronged, progressive approach to embedding information literacy into higher education institutions through extra-curricular (supplemental), inter-curricula (integrated) and intra curricular (embedded) means.

5.6 Growing Awareness for the need for Critical Literacy

Our investigation revealed that there seems to be evidence of growing awareness among staff (academics and librarians) of the need to develop critical skills among students at least at the institutions of the authors of this paper. In some universities there is already successful practice in imparting critical skills. There is considerable room for improvement to respond to complications and challenges posed by large amounts of mis-information, disinformation and mal-information. Thus introducing and implementing Process Improvement Initiatives needs to be formalized and monitored.

As discussed in the previous sections of this paper there is a need to develop greater awareness of the problems created in the post-truth era and by fake news proliferation. Students, researchers and people in general need to be able to distinguish between credible and reliable information, and erroneous, distorted, untruthful or malicious information. Nowadays due to the ease and speed with which news and information are shared using new technologies and social media. This need is becoming increasingly pressing. Strategies and practices for developing critical thinking and critical literacy in learners seem to be either absent, nebulous or sporadic. Most Higher Education institutions have no dedicated units/modules but some aspects are dispersed across various modules in the curricula. We propose that whenever new programmes of study (diplomas, degrees, masters or doctoral) are introduced or revalidated dedicated modules (or part of existing modules as is the example implemented at the ATEI (see 5.2) on Critical Literacy be developed and introduced.

6. Conclusion

In the post-truth era, everybody should be aware of the fact that certain individuals, organisations, agencies and even governments may generate mis-information, disinformation, or mal-information. At the same time, all of these actors can also be the victims of such information. Thus, awareness of the dangers of fake news, and the means of discerning the truth and credibility of information, are of paramount importance. By far the best strategy for dealing with these problems is the development of critical thinking and critical literacy as early as possible within formal education.

Researchers, students, academics and scientists in general need to develop critical literacy skills and awareness of the moral and ethical principles that should govern their research journey, and the way the use other researchers' work.

In this paper we revisited Blooms taxonomy and by consolidating more recent contributions and our collective knowledge we represented an inverted hierarchy showing that as the levels rise the learner is not only able to do more but also demonstrates higher level cognitive skills. We then identified current issues created by the proliferation of fake news, misinformation, disinformation and malinformation and the dangers posed by these practices. We reported current practices in developing critical thinking in the authors' respective institutions and concluded that it is imperative to develop awareness and curricula for critical literacy.

We customised the moral and ethical concepts suggested by the US Content Subcommittee of the ImpactCS Steering Committee, and we customized them to flag the ethical concerns over misinformation, disinformation and malinformation.

Experiences gained through our collective participation in local, regional, national, European and international levels will inform future work. Further work will see the development of a customisable framework for the introduction of Process Improvement for Critical Literacy for educators and librarians in order to develop their students' reasoning and critical thinking skills for effective evaluation of information.

It is only through the collaboration of librarians and academics that progress can be achieved in this crucial effort to educate future generations of students, researchers and the public at large, so they can successfully navigate the treacherous sea of misinformation, dis-information and mal-information.

7. References

ACRL (2015).Framework for Information Literacy for Higher Education. Available at: <u>http://www.ala.org/acrl/standards/ilframework</u> (1/5/18)

- Adams, N.E. (2015) Bloom's taxonomy of cognitive learning objectives, J Med Libr Assoc.; 103(3): 152–153
- Anderson, J., Rainie, L. (2017) The Future of Truth and Misinformation Online, Pew Research Center, October 2017.
- Anderson, L.W, Krathwohl, D.R. (2001), A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives. New York: Longmans; 2001.
- Anderson, L.W, Krathwohl, D.R. (2001), A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives. New YorkNY: Longmans; 2001.
- Berki, E., Valtanen, J. (2007) Critical and Creative Mathematical Thinking with Practical Problem Solving Skills - A New Old Challenge, South-East European Network on Formal Methods (SEEFM), Thessaloniki, Greece, 2007.
- Biggs, J. (2003). *Teaching for quality learning at university*, 2nd edn. Buckingham: SRHE & Open University Press.
- Bissell, A.N. Lemons, P.P. A New Method for Assessing Critical Thinking in the Classroom Bioscience; Oxford Vol. 56, Iss. 1, (Jan 2006): 66-72.
- Bloom, B.S. (1956) Taxonomy of educational objectives: the classification of educational goals. New YorkNY: Longmans, Green; 1956.
- Chen, X. Sin, S-C, J., Theng, Y-L, Lee, C.S. (2018), Why Students Share Misinformation on Social Media: Motivation, Gender, and Study-level Differences, The Journal of Academic Librarianship 41 (2015) 583–592.
- Chou, P.B., Passerini, K. (2009). Intellectual property rights and knowledge sharing across countries, Journal of Knowledge Management, Vol. 13 No. 5, pp. 331-344.
- CILIP Information Literacy Group. (2018). CILIP Definition of Information Literacy 2018. Available at:

http://c.ymcdn.com/sites/www.cilip.org.uk/resource/resmgr/cilip/information_profess ional_and_news/press_releases/2018_03_information_lit_definition/cilip_definition_ doc_final_f.pdf

- Closson, A. (2014) Crossing the threshold: the information cycle as a metacognitive cultural tool. 14 15 August 2014. Limerick Institute of Technology: IFLA.
- Dodd, L. (2017) Adopting and developing an information literacy framework at Maynooth. 10-12 April 2017. Swansea University: Lilac 2017.
- Edwards, J.A. (2016) 'Evolving pedagogical practice at Middlesex University: the state of our art', SCONUL Focus, (68), pp. 47-57.
- Edwards, J.A. and Hill, V. (2016) Demythologising librarianship: future librarians in a changing literacy landscape. Middlesex University.
- Frazer, A., Recio, A., Gilbert, L. and Wills, G. (2014) 'Profiling the educational value of computer games', *Interaction Design & Architecture (s) Journal-IxD&A*, 19, pp. 1-19.Gunther, R., Nisbet, E.C., & Beck, P. (2018, Feb 15). Trump may owe his 2016 victory to 'fake news,' new study suggests. *The Conversation*. Available at:

https://theconversation.com/trump-may-owe-his-2016-victory-to-fake-news-new-study-suggests-91538 (1/5/18).

- Global Digital Citizen Foundation (2016). *The ultimate cheat sheet for critical thinking*. Available at: https://globaldigitalcitizen.org/critical-thinking-skills-cheatsheetinfographic (1/5/18)
- Gottfried, J., & Shearer, E. (2016).News use across social media platforms 2016.Pew Research Center. Retrieved from: http://assets.pewresearch.org/wp-
- content/uploads/sites/13/2016/05/PJ_2016.05.26_social-media-and-news_FINAL-1.pdf
- Harley, B. (2001) Freshmen, Information Literacy, Critical Thinking and Values Reference Services Review, Vol.29, No 4, 2001 pp. 301-305.
- Hermon, P (1995) Disinformation and misinformation through the internet: Findings of an exploratory study, Government Information Quarterly, Volume 12, Issue 2, 1995, Pages 133-139.
- Huff, C., Anderson, R.E., Little, J.C., et al. (1995) Integrating the ethical and social context of computing into the CS curriculum. An Interim Report from the Content .Subcommittee of the Impact CS Steering Committee In Proceedings of ETHICOMP 95: An International Conference on the Ethical Issues of Using IT, Leicester UK, 28-30 March 1995, 2, 1-19.
- John Hopkins, The Sheridan Libraries, Evaluating Information http://guides.library.jhu.edu/c.php?g=202581&p=1334961(1/5/18)
- Keene, J., Colvin, J. and Sissons J. (2010) Mapping student information literacy activity against Bloom's Taxonomy of Cognitive Skills. Journal of information literacy, Journal of Information Literacy ISSN 1750-5968 Volume 4 Issue 1 June 2010 Article 4(1), pp. 5-17 http://dx.doi.org/10.11645/4.1.189(1/5/18).
- Kim, B. (2012) 'Harnessing the power of game dynamics: Why, how to, and how not to gamify the library experience', College & Research Libraries News, 73 (8), pp. 465-469.
- Levasseur, D.G. (2008) Media Bias, Encyclopaedia of Political Communication, SAGE Publications, Inc. [date accessed: 26th April 2018], available at: <u>https://search.credoreference.com/content/topic/media_bias?searchId=e91dd41c-eaf2-11e6-9271-</u>

 $\underline{0e58d2201a4d\&PHPSESSID=cobuq5t8oh844ul350nv5m4kc1(1/5/18)}$

- McGuinness, C. (2006) 'What Faculty Think–Exploring the Barriers to Information Literacy Development in Undergraduate Education', The Journal of Academic Librarianship, 32 (6), pp. 573-582.
- Marmot, M. Post-truth and science, The Lancet; London Vol. 389, Iss. 10068, (4/2/, 2017): 497-498.
- Melville, W. (2017) Reasoning Versus Post-truth, Commentary, The Science Teacher; Washington Vol. 84, Iss. 6, (Sep 2017): 9-11.
- Office for Harmonization in the Internal Market (Trade Marks and Designs) (2015). Intellectual Property and Education in Europe Study on IP Education in School Curricula in the EU Member States with Additional International Comparisons,

https://euipo.europa.eu/ohimportal/documents/11370/80606/IP+and+Education+final +report+September+2015 [visited 10/4/2018]

Pariser, E. (2011). The filter bubble: What the internet is hiding from you. London: Viking.

Peacock, J (2004) Beyond the fashionable: strategic planning for critical information literacy education, in Curzon, S.C., Lampert, L.D., (eds.) Proven strategies for building an information literacy program, New York: Neil Schumann, 29-53.

Prensky, M. (2009) H. Sapiens Digital: From Digital Immigrants and Digital Natives to Digital Wisdom. Available at: http://www.wisdompage.com/Prensky01.html (Accessed: 19th April 2018).

Roig, M (1997) Can Undergraduate students determine whether text has been plagiarized? Psychological Record, 47.1, (Winter 1997): 113-22

Saunders, L. (2012) 'Faculty Perspectives on Information Literacy as a Student Learning Outcome', Journal of Academic Librarianship, 38 (4), pp. 226-236

Samuelson, P. (1994). Self-plagiarism or fair use? Communications of the ACM, Vol. 37, Iss.8., pp 21–25

- Secker, J. and Coonan, E. (2011) A new curriculum for information literacy: curriculum and supporting documents. Cambridge University Library.
- Tewell, E. (2018). The practice and promise of critical information literacy: Academic librarians' involvement in critical library instruction. *College & Research Libraries*, 79(1), 10-34. doi:10.5860/crl.79.1.10Tewell, E. (2015). A decade of critical information literacy: A review of the literature. *Communications in Information Literacy*, 9(1), 24-43. doi:10.7548/cil.v9i1.315
- UNESCO (2017). Media and Information Literacy. Available at: <u>http://www.unesco.org/new/en/communication-and-information/media-</u> <u>development/media-literacy/mil-as-composite-concept/</u>(1/5/18)
- Voutsa Eleni, Siakas Kerstin V.,Nisioti Kleoniki, Ross Margaret (2006). A survey of the student's awareness on Ethical issues at the Technological Educational Institute of Thessaloniki, in R. Dawson, E. Georgiadou, P. Linecar, M. Ross. G. Staples (eds), *Learning and Teaching Issues in Software Quality*, Proceedings of the 11th INternational Conference on Software Process Improvement - Research into Education and Training, (INSPIRE 2006), April, Southampton, UK, ISBN 1-902505-77-8, The British Computer Society, pp.139-150.
- Walsh, A. (2014) 'The potential for using gamification in academic libraries in order to increase student engagement and achievement', Nordic Journal of Information Literacy in Higher Education, 6 (1), pp. 39-51.
- Wardle, C., Derakhshan, H.(2017) Information Disorder Toward an interdisciplinary framework for research and policymaking, Council of Europe September 27, 2017

White, D.S. and Cornu, A.L. (2011) 'Visitors and Residents: A new typology for online engagement', First Monday, 16 (9). Available at: http://firstmonday.org/article/view/3171/3049 (Accessed 2 May 2018) Willinsky, J.; Provençal, J. (2013) Critical literacy lessons for the intellectual properties of learning from Bede and Alcuin of York, International Journal of Cultural Studies 16(5), 475–489

INFORMATION LITERACY OUTSIDE THE CLASSROOM

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ABSTRACT

For students to understand information sources and to become information literate, first the professors need to have an understanding of library resources to be able to create learning experiences that utilize the subscription information sources available. Zayed University has a program of offerings to help the faculty to become more familiar with finding current information and other means of creating valuable information seeking opportunities for students within and outside the classroom. Many of these sessions for professors are offered during the common break period/lunch time and cover databases, a variety of offerings is what keeps the program vibrant.

Key words: information literacy, lifelong learning, professor training, skills acquisition, curriculum development

1. INTRODUCTION

Zayed University is a federal university in the United Arab Emirates. There are two campuses, one in Dubai and one in Abu Dhabi. Traditionally the university was open only to women, and mostly Emirati nationals; in the past 10 years ZU has provided education to male students as well as other students, mostly from the Gulf region. The professors and staff are a mix of nationalities.

Zayed University is western-style, and has an English medium curriculum; the library services are similar to what a student would have in Europe or North America. The ACRL Information Literacy threshold concepts are loosely observed in the design of library instruction. We use a variety of tools and approaches to help students become information fluent, life-long learners.

Many of our students and professors at Zayed University are unfamiliar with analyzing information and determining what is a reliable source of information and what is possibly not an appropriate source of information for their needs. Librarians conduct regular classroom information literacy sessions, which introduce students to particular resources at their "point of need"; but this is often a "one-shot" experience does not strategically address information fluency skills.

The best way to bridge the gap that our students and faculty may have in understanding the benefit of using library resources versus using only internet sources is through our new outreach program. In the following paper, I will describe the innovative ways that Zayed University librarians have reached the university community to creatively bring reliable information sources to the everyday lives of our patrons in this era of misinformation.
2. Traditional information literacy program for students and faculty

2.1. Students

Emirati students are easy to work with, but when library instruction is assessed we often receive results that reveal students are happy with the instruction session, still their work does not reflect the utilization of library resources.

The program of Information Literacy instruction attempts to address threshold concepts, but the best way to connect with our students has been to make personal connections. This concept of "concierge library service" has been used at many small universities in the US; liaison programs, on-call librarians, or "personal librarians."

At our university, with small class sizes, special reference assistance in many formats is the standard of service that students can expect, and is the best way to work with our students who may be first generation college students or culturally intimidated by the western-style university setting. Our reference and instruction approach is always highly adaptable to the students needs, and though we cannot assess how many students truly feel comfortable approaching the librarians, we can assume that by making ourselves as flexible and available as possible, this will encourage more use of the library and resources than by providing only rigid and standard traditional reference and instruction.

This unique women-only Emirati space provides a haven of learning, this opportunity to reach these students where they feel most comfortable and usually with a low-stakes environment, due to the librarian not typically having a grade directly attached to the outcome of the library session provides an opportunity to meet the students in a relaxed way to share with them the secrets to being a well-rounded and resourceful person. Dr.Gergana Alzeer is a professor at Zayed University and she researches gendered space. (Alzeer, 2018) In the United States it is unusual and a privilege to have this type of female-only learning environment, luckily this is the standard we have enjoy at Zayed University.

By making personal connections with a librarian who provides constant support in a variety of areas, including research assistance, the students have a greater chance of finding the resources that will be useful to them, hopefully this will help them to expand their "network" of contacts and hopefully learn how to search on their own, or how to find the right people to support them in their search. "Instant information" often leads students to feel that what they have found is good enough, but that is not the best way for students to become lifelong learners, to fully understand where information comes from and how they can obtain accurate information mentor" is in a way the new role of librarians. Understanding the formats that students need is an important part of getting to know the current student body, in a recent large scale, worldwide study of the information retrieval preferences of university students by Mizrachi and Salaz, (Mizrachi, Salaz, Kurbanoglu, & Boustany, 2018) it is deducted that print wins over electronic. 78% of all students from every culture and socio-environmental background prefer to use print resources, yet what we always hear that "Millennials prefer electronic," because we see them using their phones for

initial information. Getting to know our students and their needs is the best way to help them become information literate.

Another consideration in our regular library instruction offerings and our innovative personal librarian services is that our students were often raised and educated entirely in Arabic language. Unfortunately, few of our library reference staff have any skills in Arabic, so the students are immersed in an English medium environment during this critical stage in their university education. The books and resources in Arabic are the best available to our students, but there are challenges with using these sources. Recent research done in the Zayed University Cognition and Neuroscience Lab show that reading and conducting research in Arabic is more challenging than research in English language. (Hermena, Liversedge, Bouamama, & Drieghe, 2018)

In addition to regular instruction and reference services we offer reference chat service and flexible appointments with librarians.

2.2. Faculty

Many of the Zayed University faculty are from European countries, the Middle East/ North Africa and Turkey, few would have experienced a program of library instruction from a young age, as would be typical for a millennial in North America.

Although most of our faculty hold the terminal degree in their field, either a master's degree or a PhD, some have not previously used a fully resourced library. This gap in understanding what libraries have to offer is reflected in this lack of understanding of how the library could be utilized by their students. We have tried many ways to integrate the library resources with learning outcomes and it has been quite successful to lightly embed librarians in the classroom for assignment specific instruction and follow up contact.

In a recent paper by Justin Parrot (Parrott, 2018) he addresses the fact that students and professors are spoiled for choice of information sources and formats, but the benefits of the ease of use the technologies are offset by the dark side of misinformation, disinformation and the danger of using technology tools, such as viruses, privacy invasion or identity theft. Reliance upon computers and smart phones may be just as much a problem with professors as it is with students. To understand the full scope of resources available and how to use them is the job of the librarians, to help guide all patrons to the tools that are most suitable to the user.

To help the faculty to better understand how the students could be using subscription databases, printed materials and other sources that are needed for university education, we have started some alternative outreach. The primary outreach is a lunchtime learning/training program, among other programs that I will lay out for you in the following chapter. The innovative offerings of services from the Zayed University Library for students and faculty have helped us to reach our patrons in new ways.

3. INNOVATIVE INFORMATION LITERACY PROGRAMS

3.1 PALS

The Peer Assistant LeaderS (or PALS) is a student to student peer tutoring program at Zayed University. These PALS are selected among the students that hold a high GPA and are allowed to tutor for classes in which they received a high grade. The major benefit of this program is that the students have a flexible schedule and can help their peers out in a way that hired tutors may not be able to assist. The PALS literally "speak the same language" as the students they are peer tutoring.

A drawback to this peer tutoring program is the quality of tutoring, perhaps a student who helps a student is giving some help, but not the best quality help available. To help resolve this disparity, the Academic Bridge Program Librarians, who typically work with the students learning English, have developed an intensive "Library PALS" program, which teaches the peer tutors in-depth concepts of information literacy. This allows the students providing tutoring to have a greater knowledge of how the library works, what resources are offered and how to direct their peers to reliable information as they are doing their work.

The course is offered every other year, in order to reach the new batch of PALS as they are initiated. The outcome has been truly amazing, when we encounter a "Library PAL" we are always surprised by the level of skill the student has in using and teaching others about conducting library research. This is an awesome way to get students engaged in information literacy.

3.2 Living Library

The Living Library was program developed during the Zayed University Innovation Week; the concept is modeled after the Scandinavian Human Library program, but to suit the customs of the UAE, we adapted to have the topics be milder for our audience of female Emirati students. The program offers a "Living Library" which is a menu of conversations that students can choose from among a list of concepts or topics that they are likely unfamiliar with. For example, the "menu of books" or list of conversation topics offered at one time is "Antarctica" "Master Fish Keeper" "Snowboarder" or "Japan" all of which have appealed to students. Once a "book" has been chosen, the patron "checks out a person" from the Living Library for a 10-15-minute conversation that opens up minds in many ways. In addition to the conversation, there is often some props, including maps, photographs, books and articles to help describe the concept or guide the discussion. This is covertly "information literacy" training because most times the discussion is an "oral presentation" with sources cited.

Storytelling and shared knowledge is a traditional and trusted form of transfer of information for the Emirati people, as well as many other traditional cultures. To literally "start a conversation" with someone you don't know and find out about their story through a "Living Library" checkout, can establish a trusting relationship with someone from the university, often with someone who is staff from the library. This liaison or "meet and greet" type of activity is important for building relationships with the students and faculty.

3.3 Faculty training

Informal brown-bag lunch time training is not a new concept for most libraries, but we hadn't offered anything like this from our library in many years. The rekindling of this concept in 2017 was off to a slow start, but the connections established during this trial period and the follow up feedback collected revealed to us where we succeeded and what we can do to help faculty in the future.

The training we offered was determined from the results of a survey of our faculty. There was a range of requests for training on technology tools to using subscription databases. Many of the needs of faculty, such as how to find publishers were easily addressed by having sessions on using the SciVal database. Another popular training session on both campuses was on Lynda.com. Lynda itself provides high quality training videos in a variety of disciplines. Many people are so happy to be introduced to this product when they realize the value; many of the library resources just need to have a spotlight shined on them to increase patron usage.

The training we plan to offer in the future will be on different topics than previously offered because we want to make sure that we refresh our campaign, prepare training on new topics and keep all of our resources in heavy circulation. If any repeats are requested, we could train on a one-on-one setting. The marketing of library resources is a primary motivation for having this program, because we are able to show faculty what the library has and give a chance for a meeting and hopefully learn about something new and useful. A secondary outcome for this program is to help professors better understand how the library resources can be useful to their students assignments and learning.

Another way the Zayed University library has recently connected with students and faculty in a new way is by preparing short instructional videos. There are frequently asked questions that we encounter through reference services, it has been beneficial to make a video about "Finding a Book in the catalog," or "Finding an Article in the Databases," or "How to Access the Databases from Off-Campus." These short videos can be found 24 hours/day on our Library YouTube channel. A major benefit is that these can be watched over and over until the student or faculty understands the concept; this helps to reduce any anxiety a patron may have about asking a question more than once. We also send the link to anyone via email or reference chat if they require a quick simple tutorial.

The YouTube Channel is something we have been slowly developing and have continued to expand the tutorial videos as we find the need. A couple of videos were done after receiving feedback from the Faculty training sessions, and many are developed when we start a new subscription. It helps promote and create awareness of library resources.

3. CONCLUSION

Going forward, the Zayed University Library hopes to increase traditional and non-traditional library services to students and faculty.

The library is satisfied with this type of casual outreach to students and faculty because the word of mouth and "buzz" that is created with innovative intellectual connections meets with our Library vision:

The Zayed University Library and Learning Commons' people and places inspire intellectual curiosity. Our resources empower scholars to discover and create new knowledge.

1. LITERATURE

1. Alzeer, G. (2018). Types and dynamics of gendered space: a case of Emirati female learners in a single-gender context. Gender and Education, 30(3), 360-378.

2. Hermena, E., Liversedge, S., Bouamama, S., & Drieghe, D. (2018, April). Orthographic and root frequency effects in Arabic: evidence from eye movements and lexical decision . Journal of Experimental Psychology: Learning, Memory, and Cognition, 68.

3. Mizrachi, D., Salaz, A. M., Kurbanoglu, S., & Boustany, J. (2018, May 30). Academic reading format preferences and behaviors among university students worldwide: A comparative survey analysis. PLOSone, 13(5), 19.

4. Parrott, J. (2018, May 14). Finding the Truth in the Age of Misinformation: Information Literacy in Islam. Yaqeen Institute for Islamic Research, 18.

INFORMATION LITERACY FORMATION OF STUDENTS IN THE MULTILINGUAL CONTEXT (a case study of S.Seifullin Kazakh Agrotechnical University)

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ABCTRACT

Multilingual education makes provision for the creation of a new education model that promote the formation of generation competitive in the context of globalization and information literacy. This article focuses on the study and analysis of the information literacy formation in the conditions of multilingualism at S.Seifullin Kazakh Agrotechnical University. Subsequent to this, survey conducted aimed at the evaluation of information literacy level among students of agriculture, engineering, economics and computer science students. The results showed that introduction of information literacy into the educational process of HEIs is a key factor for the formation of competitive professionals able to flexibly respond to complicated tasks, to effectively use all types of communication means, process information and produce new knowledge in different areas.

Key words: information literacy, multilingual education, formation of generation, globalization, educational process, competitive professionals.

INTRODUCTION

Multilingualism and multiculturalism form an integral part of the dynamics that define today's global information society. The European Commission, provides the definition of multilingualism as: "the ability of societies, institutions, groups or individuals to engage on a regular basis with more than one language in their day to day lives" [1].

Modern society is becoming multicultural as migration processes are enhanced inside the country and abroad. Communication via the new information technologies also contributes to the fact that multiethnicity and multilingualism have become integral features of any modern society, including Kazakhstani society.

Multicultural education in Kazakhstan is one of the priority areas in the education system; an important part of modern education, contributing to the acquisition of knowledge about spiritual and cultural values, traditions of other people. Education is the most important stage in the process of formation and development of a multicultural, tolerant personality that respects not only its own, but also the culture of other people; stage, when consciously and purposefully formed value guidelines, life principles and priorities of the younger generation.

The modern language situation in Kazakhstan allows speaking about Trinity languages as a significant factor of strengthening of public consent. Diversity of cultures and languages, their equal coexistence are unconditional property of our country, and the conducted

language policy as ensures observance of linguistic rights of all ethnic groups, and provides free choice of language for communication, reception Education, realization of creative needs. The positive development of trilingualism for the Kazakhstani community is possible under the condition of a unified political, ideological and cultural platform.

Multiculturalism, multilingualism along with communicative and information competences, is defined today by the world educational community as the basic competence of education and one of the main directions of the world educational space.

Moreover, the ongoing and unprecedented growth of information and communication technology, coupled with the globalization of the economy, has created a huge challenge for education. The pursuit of information literacy in education has become widespread with the extensive pervasiveness of global networks as well. Information literacy together with multilingual education is thus seen as a way to address a growing awareness and demand for preparing students to effectively participate in the emerging global knowledge economy.

PURPOSE

The purpose of this article is to present a picture of the current needs for information literacy skills of students, particularly technical and agriculture students of multiligual groups, in the digital age, and to examine the level of those students awareness about information literacy. An extensive literature review and survey, focusing on analysis of a wide range of IL initiatives in Seifullin Kazakh Agrotechnical University, has been conducted. It also highlights the approach students opinion suggests as being the most suitable to improve students' information literacy skills in multilingual context: embedding information literacy into the higher education curriculum.

IL DEFINITION

The notion of information literacy, emerging with the advent of information and communication technologies, has been shaping the way of how people perceive, process, use and create information. Most of the contemporary interpretations of information literacy are inextricably intertwined with lifelong learning [2]. Information literacy is deemed to be pivotal to the pursuit of both personal empowerment and economic development of a society. It is being recognized as a kind of "new economy" and lifelong learning skills essential for people to cope with the rapidly evolving changes in the era of information age [3].

Paul G. Zurkowski first used the term information literacy to describe the techniques and skills necessary to be able to utilize "a wide range of information tools as well as primary sources". Zurkowski's definition of information literacy also included the ability to measure information value, to "mold information to [meet] needs" and to create solutions to problems [4].

In the ensuing four decades, the concept of information literacy has developed to include multiple definitions, models, standards, best practices, and declarations [5]. Since Zurkowski's coining of the concept of information literacy, researchers around the world have worked to explore and expand the concept [6], resulting in a range of definitions of information literacy and a myriad of standards and guidelines for information literacy teaching and training.

According to Sanford [7], information literacy is a process of turning information into meaning, understanding, and new ideas. This process would require students to understand the rationale behind using information as well as actually knowing the exact procedures of conducting the information search. Students need to 'know-how', but more importantly, they must first 'know-why'. Hence, being information literate would contribute towards personal empowerment through the learning to learn principle. The program of multilingual education, introduced in Kazakhstan, is unique and implies, in contrast to western analogues, parallel and simultaneous training in three languages. Accordingly, the purpose of the work is to study this model of education, which aims to train highly qualified personnel of various specialties, having a linguistic competence on the basis of parallel training in Kazakh, Russian and English languages, capable of intercultural communication, mobile in the international educational space and the labour market. Multilingual training promotes the development of language culture, comprehensive intellectual progress and the creation of a tolerant language environment. Multilingual education is inextricably linked with the implementation of the main parameters of the Bologna process. The specialist of the new formation should possess not only professional knowledge, but also freely orientate in modern technologies, tendencies of the world market.

CONTEXT AND METHODOLOGY

There is a strong link between information literacy and multilingualism while IL is of immense importance to multilingual institution of higher education. "Given that the information revolution has immensely increased the ability to access and employ information, using various sources including information published electronically, societies are required to have certain capabilities (other than the ability to read and write) to fully utilize these resources. Scholars affirm that society requires multi-skilled learners, who are able to think critically, pose and solve problems, and become independent and lifelong learners". It is also important that learners gain an understanding of the technological environment in which information resources are incorporated and used, as it is not just the finding of information, but the ability to use it that is important [8]. Universities should provide opportunities for ensuring that all students acquire the necessary competence in knowing how to navigate the web and find quality resources, to formulate questions, to access potential sources of information, to critically evaluate information for accuracy and quality, to organize information, and finally, to use information to do something, the last and most valuable step in the process [9].

The need for information literacy instruction in multilingual perspectives is becoming continually more important due to the ubiquitous of electronic resources and the significant increase use of the internet as an information source. Preparing students to become information-literate and independent researchers have always been the focal goal of myriad academic institutions, including S.Seifullin Kazakh Agrotechnical university.

In this respect, S. Seifullin Kazakh Agrotechnical University among 20 universities of the Republic of Kazakhstan implements a multilingual education in the cultural project "The

Trinity of Languages" [10]. It should be noted that, starting from 2015-2016 academic year, all specialties of magistracy and doctoral studies have completely switched to multilingual education. Since 2016-2017 academic year, the discipline "Information and Communication Technologies" in English has been introduced into the block of general education disciplines in all bachelor's specialties.

The current multilingual environment on the web and in digital libraries of KATU has brought with it many opportunities, but as well many challenges. As Chowdhury, observes: "...multilingual information retrieval has now become a major challenge in providing access to the prolific information on the web" [11]. Students need help in navigating this vast amount of information: for example, users may need help in formulating queries, determining the quality of the information they find on the internet, making relevance judgments and in interpreting the information found in a bibliographic record or in translating the content of the documents they retrieve. In particular, students who have to access content in a language they are not proficient in continue to face significant challenges.

In order to solicit views from students, MonkeySurvey were conducted among Bachelor, Master and PhD students. A total of 280 students of three levels of education, including technical, agricultural and IT directions, had been recruited for IL survey. The total number of questionnaires replied is 280 and the response rate is 100%, including 60% of undergraduates, 35% of masters and 5% of PhD candidates.

RESULTS AND DISCUSSION

The intended majors of participants were across the board, with 7.14%, in agriculture, 7.17% in engineering, 60.71% in economics, 3.57% in computer science. The questionnaire consists of 10 sections and these sections contain information regarding students' opinion, background, evaluation and recommendations on the IL development.

Students were asked to give the definition and understanding of IL as well as to tell where they faced IL term. It is noticeable that mostly students come across with this term in the university and 57% responded that they were taught IL at the university. Students comments were as follows: • "Ability to define problems in terms of their information needs, and to apply a systematic approach to search." • "Information literacy is a person's ability to understand the need for information, the ability to effectively search for it, analyze and use it." • "Information literacy allows people to correctly use information and communication technologies." • "Information literacy is the ability to analyze information and use it for self-expression, the ability to independently learn and create information."

As for effectiveness of IL, respondents were asked whether they agreed or disagreed that IL should be a part of curriculum and what cases IL is useful in. The results showed that 89 % of students rated the effectiveness of IL as a part of curriculum. Furthermore 46.43% of students pointed out that IL is useful in everyday life while only 10.71 % thought its usefulness during practical classes. (Figure 1).



Figure 1.Students' responses

To the question whether do you agree or disagree that a smart and excellent student should be information literate, the overwhelming majority of students answered positively, that makes 96 % out of 100% responses. This trend shows the interest and importance of IL formation in the multilingual higher education institutions, namely KATU.

Respondents comments on the SurveyMonkey demonstrate their wide range of experiences with information literacy use and formation, and opinions of its effectiveness and value.

On the positive side, student comments included the following: • "I strongly believe that IL should be taught at HEIs." • "I think the IL did a fabulous job in introducing research tools available to students." • "I think both librarians and teachers should learn to teach IL at universities."

CONCLUSION

The data analysis illustrates three important points. First, high school students have the general understanding of the information literacy even some of students do not have adequate knowledge of information literacy skills so that a university-based implementation of the information literacy framework should be considered. Second, mostly students become familiar with IL term only within the higher education program rather than in schools or colleges. Third, the results provide strong evidence of the need for information literacy formation in the multilingual education context due to the fact that the respondents are trained in multilingual groups.

This study examines not only IL issues but also the correlation between information literacy and multilingual education. The outcomes from information literacy formation study support that information literacy skills, can help improve students' academic performance and success in the framework of multilingual education. In addition, this study considers information literacy formation as a key factor for the formation of competitive professionals able to flexibly respond to complicated tasks, to effectively use all types of communication means, process information and produce new knowledge in different areas. McCracken and Johnson at St. Edward's University have offered a good example in their pilot study that librarians and instructors can work collaboratively and successfully on incorporating new information literacy threshold concepts into information literacy sessions focusing on students writing projects [12]. Through partnering with faculty to create curriculum-integrated programs, librarians can actively contribute to students' learning processes in their quest to enhance the skills, knowledge and attitudes needed to become lifelong learners [13].

KATU makes significant efforts in this regard. The project of European Union Erasmus+ "Developing Trans-regional information literacy for lifelong learning and the knowledge economy" is being implemented together with partner universities grant holder is Limerick Institute of Technology, Ireland. Piloting of IL modules was carried out to students of different majors and level. There are three implementation options being introduced at KATU, namely libraries training, curriculum infusion and students training. Library training option is to teach librarians to use English to implement the IL framework. Curriculum infusion option is to implement the IL framework by infusing in curricular of students. The next option is to train students with IL framework that is efficient in the context of multilingual education.

REFERENCE

- 1. Council of Europe: 2007a. From Linguistic Diversity to Plurilingual Education: Guide for the Development of Language Education Policies in Europe.
- 2. Candy, P. (2002). Lifelong Learning and Information Literacy. White Paper prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for use at the Information Literacy Meeting of Experts, Prague, The Czech Republic.
- 3. O'Sullivan, C. (2002). Is Information Literacy Relevant in the Real World? Reference Services Review.
- 4. Zurkowski, P. G. (1974). The information service environment: Relationships and priorities. Washington, DC: National Commission on Libraries and Information Science.
- 5. UNESCO/NFIL (2003). The Prague declaration: towards an information literate society.
- Saranto, K., and Hovenga, E. (2004). Information literacy What's about? Literature review of the concept and the context international. Journal of Medical Informatics, 73(6).
- 7. Sanford, S. (2000). Terry Crane: Inspiring Connections.
- 8. D. SCOTT BRANDT. Information Technology Literacy: Task Knowledge and Mental Models.
- 9. Doyle, C.S. 2003. A concept for the information age.
- 10. Address of the President of the Republic of Kazakhstan N. Nazarbayev to the people of Kazakhstan "New Kazakhstan in the New World".

- 11. Chowdhury, G. (2004) Access to information in digital libraries : users and digital divide. In: International Conference on Digital Libraries.
- 12. Johnson, Brittney and I. Moriah McCracken, "Reading for Integration, Identifying Complementary Threshold Concepts: The ACRL Framework in Conversation with Naming What We Know: Threshold Concepts of Writing Studies." Communications in Information Literacy 10, no. 2 (2016).
- 13. Lau, J. (2006). Guidelines on information literacy for lifelong learning. Boca del Río, Veracruz, México.

LIBRARIANS PARTICIPATING IN SERVICE LEARNING AT FEDERAL UNIVERSITIES IN THE UNITED ARAB EMIRATES

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ABSTRACT

Service Learning (SL) is important for learners as well as the community. It is always a winwin situation as students get the experience of working in a real-life environment and develop critical thinking skills, while the community gains from the learners' contribution. In the past 35 years SL was introduced in the field of education and has been viewed as an important part of student education. Although primarily practiced in elementary and high schools, most universities and colleges around the world have now introduced SL as part of the curriculum while in others it is a prerequisite for graduation. Faculty have always been directly and actively involved in teaching and supervising students engaged in various projects for SL. Libraries and librarians are part of the academic community. They can participate as members of the community needing the service, giving the service with the students as well as instructors, partnering with faculty to teach students in the preliminary stages when they need information about the community or the organization or the problem and solution to propose to the community. Librarians as knowledge and information professionals play a key role in teaching and guiding students in finding resources suitable for the projects, organizations or communities they are helping. This presentation focuses on how librarians can contribute to the success of the SL projects and students learning through integrating Information Literacy in the SL curriculum. It is based on the literature review of SL in universities, and SL activities, projects and practice in selected universities in the United Arab Emirates (UAE). Literature about SL in the Arab world and especially the UAE is limited therefore this presentation is significant in informing the world what students in UAE and universities are doing. In addition, it is a contribution to the knowledge base on SL and Information Literacy as well as on collaborations among units in the universities.

Key words: Service learning, Information Literacy, Higher Education, University, United Arab Emirates

1. INTRODUCTION)

Service Learning (SL) has recently developed as a teaching methodology implemented in many institutions of higher learning. In some countries like USA and Canada, Universities have included Service Learning in their missions and encourage colleges and departments to include SL courses. The main goal of encouraging SL in universities is to prepare students to become good citizens through providing services to communities that need the services

while finding solutions to real problems (Kuh, 2008). There are various definitions of service learning and to understand what we are referring to in our paper we will provide the definition.

1.2. Defining Service Learning

SL is an experiential educational approach that combines learning objectives with community service aimed at providing a pragmatic, progressive learning experience while meeting societal need. Allen (2017) suggests that "service learning combines the acquisition of specific learning outcomes with community service, thus bringing together three entities: the community, higher education, and service. Fundamental to this concept is the integration of service and learning". The definition further confirms that this model is based on students volunteering to become involved with civic life, while mastering their academic topic. Its success is based on collaboration, mutual respect, and shared goals between faculty, students, and the community where the students provide the service (Hasbún et al, 2016). This upholds the perspective expressed by Magd and McCoy (2013) who propose the necessity for academic institutions and the business community working collaboratively to build a knowledge-based economy. One may ask so why Service Learning? All groups involved in service learning benefit from the experience.

2. BENEFITS OF SERVICE LEARNING

2.1 Student Benefits of Service Learning

There are several benefits to service learning. These are discussed in the next sections.

2. 1. 1. Learning Outcomes

The goal of a service learning approach is to help guide students in evaluating their role and actions vis-a`-vis the project(s), as well as to build a knowledge base through experiencing situations and reading about the issues at hand. It is even more important at Zayed University (ZU), where most of the students may never have been in the employment sector, and so lack working experience. This service is intended to have a positive impact on students' academic learning. That is because it improves students' ability to apply what they have learned in "the real world". Additionally, while students are in college, they can read about societal issues and use the information only for getting good grades. However, with service learning included in the curriculum, there is an added positive impact on academic outcomes such as demonstrated complexity of understanding, problem analysis, problem-solving, critical thinking, and cognitive development.

2.1. 2. Personal Outcomes

In the UAE, it is possible for a student to leave high school with no work experience, and subsequently complete university studies with a focus on good grades, but lacking in the application of lessons learnt to real world situations. With civic involvement, an individual develops a greater sense of personal efficacy, personal identity, spiritual growth, and moral development. Allen (2017) points out that "service learning fosters a sense of what it means

to be a responsible citizen as well as an understanding and awareness of the responsibilities inherent in membership in the multiple communities in which we live" (p.1597). There is also enhanced individual development, particularly the ability to work well with others, and build interpersonal, leadership and communication skills.

2.2. Faculty Benefits of Community Engagement

Besides operating in tune with the curriculum, according to Nutefall (2014), "librarians working with faculty and students in service learning courses become more knowledgeable about the local community and community organizations". These efforts contribute towards educator satisfaction with the quality of student learning. This is reflected in a study by Brown and Malenfant (2017) on increased academic achievement when students use the library. They affirm the importance of the academic library on student learning and success. What that creates are avenues for research and publication via new relationships between librarians, faculty, and community. It also increases the chances, for librarians, of networking with engaged faculty in other disciplines or institutions. In the process, there is a stronger commitment to individual and group research projects.

2.3. University Benefits of Community Engagement

When students are successful, the university seeks to enhance the attributes that encourage that situation. If collaboration among educators is the reason, then the university magnifies its commitment to the curriculum. That is because positively influencing student retention makes the university more visible in the community and beyond, and hence, enhanced community relations.

2.4. Community Benefits of Community Engagement

The way that a university functions is not to be in isolation relative to its community. When that community is happy with student participation, that translates into a pool of valuable human resources needed to achieve that community's goals, resulting in improved community-university relations. That reflects what Etzkowitz et. al. (2000) refer to as the Triple Helix Model of academic–industry–government relations.

3.INFORMATION LITERACY AND SERVICE LEARNING/ COMMUNITY ENGAGEMENT

Literature on Information Literacy and Service Learning or community engagement is currently growing and has been featuring in journal articles and library literature for over the past 18 years. Actually, there is a conference specifically dedicated on service Learning and Libraries: The Colloquium on Libraries and Service Learning, which has been in operation since 2014. However, SL in academic libraries is implemented in various ways, there are cases when the Library is the customer/recipient of the service, other times they are providers of the service working closely with students and partner directly with an organization, and yet other times where they work with faculty and students as partners in delivering SL services to a not- for- profit organization or group. The current paper will focus on the latter. Most discourse about Library involvement in SL takes place in journals, conferences and books used by the Library and information management community (Kott 2016).

Several case studies were retrieved in the search, mostly from North American academic libraries. Hernandez and Knight (2010) described a sociology class they designed which has a service learning component, with Hernandez as the course instructor and Knight, the Librarian. While Hernandez taught sociological theories relating to the project and the course, and concentrated on the course content, Knight played a valuable role of introducing students to various resources relating to their project. Knight instructed them on how to find and use various resources, how to use databases, and how to identify academic sources from popular ones, and this assisted the students in finding background information for the project, using supporting literature. Barry (2011) described how she incorporated SL into an IL course she taught at Wright State University. She collaborated with local non-profit agencies, designed a curriculum guided by the ACRL IL competency University mission of engaging students, faculty, and staff in providing services to the community service. Her students provided information resources for the local agencies that were needed for community development. Barry partnered directly with the clients and did not wait for a faculty to partner with.

Gradis and Travis (2014) described their involvement teaching SL in a small group Interaction Communication course. The outcome was a successful recommendation for other libraries and faculty collaborating in IL and SL projects to use for successful completion of projects while integrating IL in the SL curriculum. Most important was to incorporate a research component in the teaching and assignment, to research the organization used in the course well before the course is in progress, to examine the final projects, and assess students source selection to evaluate students' performance on the research component (Gradis & Travis 2014, p. 8-9). In a different study, Blodgett (2017) implemented an SL component at the University of Minnesota Morris (UMM), first year Seminar class she taught on Libraries and Literature. The SL which involved students engaged in three main projects including: Leading Story times for K-3 ESL children, facilitating computer literacy instruction sessions for senior citizens and conducting a research on library use at the UMM campus Library. Students reflections indicated that they developed critical thinking and writing skills from completing the projects and addressing all the requirements of the course. Overall, they expressed that the experience was rewarding from doing something useful for others and the community.

All studies reviewed had something positive to contribute to other librarians encouraging involvement in SL. Sweet (2012) recommended best practice for integrating IL in SL, and further emphasized that librarians first identify components in IL that would be suitable for SL courses. Librarians would need to explain these to faculty they seek to collaborate with, clarifying the role of the Library using the components in the course. Indeed, adding IL would strengthen the courses and equip students with life-long skills. In addition, he recommends the need for Librarians to know the local service organizations as this would

assist when designing the lessons and the projects. Kott (2016), Sweet (2012), and Gradis and Travis (2014) recommend and suggest best practices including an assessment of the effectiveness of the IL component within the SL course or a stand-alone SL course, and to be familiar with the different epistemologies that can be used on SL research (Kott 2016, p. 9). Furthermore Sweet (2012) and Barry (2011) encourage Librarians not to wait for faculty collaborations, as it possible to integrate IL in SL projects in IL courses. The current authors concur with Kott (2016) that Sweet's best practice work on integrating IL in SL provides an important introduction to the topic and would work well for anyone interested in assisting a novice on the topic.

3.1. Information Literacy and Community Engagement at ZU

A SL/Community Engagement curriculum is implemented in various courses at ZU including in the ABP, College of Business and General Education, GEN 120-Life Skills. Library faculty collaborate with course instructors in GEN 120. This is a first-year first semester compulsory course for all students in their first year of General Education. As part of their Life Skills curriculum, one of the modules is a SL/Community Engagement project. Students are required to select a topic for which a community service is needed. Topics range from environment, health, social issues (special needs, orphans, abused or elderly); road safety, animal welfare to cultural awareness and more. IL in GEN 120 is because it is a course that reaches all students enrolled in the first year first semester. Additionally, ZU has 6 learning outcomes (ZULO) all of which every student graduating from the university is expected to have attained, and is competent at. One of the ZULO is Information Literacy, assessed in Colloquy classes to which GEN 120 belongs. Furthermore, IL provides students with life-long learning skills important for surviving at university and key for students' academic careers, therefore important to be taught and experienced early in their academic journey. With the above, the university administration saw GEN 120 as the most suitable course to introduce IL.

3.1.2. The Course

GEN 120 is a 3-credit course, meeting twice a week for 1.5 hours per session. In addition to the Service Learning project, students learn other life skills, and are introduced to the academic life of the university. The course has 6 learning outcomes of which 3 relate to Information Literacy. As documented in the course syllabus, only 3 will be listed, by the end of the course, students are expected to be able to: "determine the nature and extent of information needed for a project, access information, evaluate information and its sources critically, as well as adhering to ethical practices of information use"; "critically examine information in order to identify and respond to community needs; and "provide an informed response to an issue that affects their community." Since the course is co-taught, course faculty teach the bulk of the course and Librarians come in for the IL session. Before the session, Librarians meet with the course instructors to discuss how the IL session will proceed and at what stage of the project the students are as well as the topics students have

picked. This allows the Librarian to focus on them and prepare activities that will be useful for the project. By the time librarians visit t, most students have selected their topics and group members.

3.1.3. The Assignment

Students are required to work in groups of maximum 5, select a topic and choose a cause, conduct a research on the topic, select an organization or community group relating to the chosen cause, and provide service to the organization or group for a minimum of 5 hours. The discipline instructor works closely with students and approvals are provided at all levels of the assignment. When the service is completed students are required to submit a portfolio of the project and make a presentation in the classroom. For the presentation and the portfolio, students are required to include a bibliography of the references they consulted for the project in APA format. Both assignments are graded by the course instructor including the bibliographies.

3. 1.4. Librarian's Role

Librarians are paired with an instructor/advisor and visit the classes between weeks 5-7 when the students have already selected their topic and have done some rudimentary searching, fine-tuned the research topic. The Librarian works closely with students and takes them through the research process. They guide them to focus their research question, and introduce them to search techniques beginning with brainstorming for keywords, creating search statements. Students are introduced to search tools, from the Library catalogue to find books, using encyclopaedias, using a database and finding data/statistics through using Websites to find reliable information about their organization or cause. The librarian makes sure that each student is able to find at least 3 sources for use in their project and also discusses with them about the various organizations available on their cause and conducts guided searches to demonstrate what is available. The sessions assist students in finding background information on their cause and the organizations or groups. Although Librarians have only one 80 minutes for a scheduled class, most meet their students at least twice and continue to meet and consult with them throughout the SL project. At the end of the course, and after completing their SL service, students are required to submit a portfolio in which they have documented the project, described their experience and an evaluation of their experience and the service. Since it is a first year first semester course, some faculty have created worksheets with questions that guide students on how to go about. They also make a presentation in the classroom and are graded for both assignments. Most librarians neither attend the presentations, nor have access to the portfolio and thus have no measure for accounting if the IL session and their contribution to the project was a success. However as of spring 2018, Librarians have created a session evaluation survey which collects feedback on the presentation of the session and the overall IL contribution to their learning. This survey is nevertheless generic and used for all IL classes delivered. Since it is the first time that every library faculty is using it, we plan to review it in fall to check on its effectiveness and decide how to proceed and get the feedback we need for improvement. The review of

the survey tool and the delivery of the IL course in GEN 120 will take into consideration recommendations given by Gradis and Knight (2014), and Kott (2016) as well as Sweet's (2013), best practice, to make sure that IL is integrated properly and all partners are indeed benefiting from the projects and the program.

In informal discussions with our partner course instructors, we have learned that, students have expressed positive results of what they have learned from the SL experience. For most of the students it is their first project and also first work experience. Although the minimum of 5 hours is taken as the assigned time; some students exceed that. However, it is an exposure to most students as they get to experience what is going on in real life outside of their own comfort. Data for this is gathered from the portfolios where students document their experience. Librarians have to yet work with their faculty partners to the end of the course and find-out the impact of their IL sessions on students learning and project output.

3.4. Conclusion

The inclusion of service within the ZU curriculum, and including Information Literacy as a ZULO, supports service-learning and provides the assurance needed in developing and sustaining a service-learning program. This is possible because of the existing levels of ZU faculty participation, student involvement, and university support. Intentional planning and evaluation are in fact essential to leading these institutionalization efforts and capitalizing on a supportive institutional philosophy that seeks to prepare graduating students' lifelong learning and critical thinking capabilities.

4. LITERATURE

- Abdulla, F. (2010). Stereotypes can stymie the UAE's development. Retrieved May 16, 2018 from: https://www.thenational.ae/uae/stereotypes-can-stymie-the-uae-sdevelopment-1.496130
- Al-Khouri, A.M. (2012). Population growth and government modernisation efforts: The case of GCC countries. International Journal of Research in Management & Technology (IJRMT), 2 (1): 1. Available from http://iracst.org/ijrmt/papers/Vol2no12012/1vol2no1.pdf
- Allen, M. (2017). The Sage Encyclopedia of Communication Research Methods (Vols. 1-4). Thousand Oaks, CA: SAGE Publications Ltd doi: 10.4135/9781483381411
- 4. Barry, M. (2011). Research for the greater good: Incorporating service learning in an information literacy course at Wright State University. College & Research Libraries News, 72(6), 345-348.
- 5. Barry, Maureen. (2015). Service Learning Librarian blog. Retrieved from: http://www.libraries.wright.edu/servicelearning/about/
- 6. Etzkowitz, H., Webster, A., Gebhardt, C., & Terra, B. R. C. (2000). The future of the university and the university of the future: Evolution of ivory tower to entrepreneurial paradigm. Research Policy, 29(2), 313-330.

- Gradis, J. & Travis, T. (2014). Information Literacy + Service Learning =Social Change. Presented at IFLA WLIC 2014, Lyon, France. Retrieved May 20, 2018 from http://library.ifla.org/1058/1/166-gradis-en.pdf
- Hernandez, M. & Knight, L.A. (2010). Reinventing the box: Faculty-Librarians collaborative efforts to foster Service Learning for political engagement. Journal of Civic Commitment, 14(1). Retrieved from http://www.mesacc.edu/other/engagement/Journal/Issue14/Hernandez.shtml
- Hasbún, B., Miño, C., Cárdenas, C., Cisternas, O., Fara, C., & Garcia, F. (2016). Service-Learning as a means to promote development of social responsibility competency in a Department of Economics and Business (English translation). The International Journal of Research on Service-Learning and Community Engagement, 4(1).
- Kott, K. (2016). Service Learning in Academic Libraries. In J.E. Nutefall (Ed.). Service learning, Information Literacy, and Libraries (pp.1-16). Santa Barbara, CA: Libraries Unlimited
- 11. Kuh, D. (2008). High-Impact Educational Practices. Retrieved 8 June 2018 from: https://www.aacu.org/leap/hips
- Magd, H., & McCoy, M. (2013). Knowledge management: Perspectives and practices. Learning Models for Innovation in Organizations: Examining Roles of Knowledge Transfer and Human Resources Management: Examining Roles of Knowledge Transfer and Human Resources Management, 127.
- Malit, F. T. & Oliver, T. (2013). Labor migration and deskilling in the United Arab Emirates: Impacts on Cameroonian labor migrants. Retrieved 16 May 2018 from: Cornell University, ILR School site: http://digitalcommons.ilr.cornell.edu/workingpapers/171/
- Nutefall, J. E. (2009). The relationship between service learning and research. Public Services Quarterly, 5(4), 250-261. doi:10.1080/15228950903199271
- Nutefall, J. E. (2014). Why Service Learning is Important to Librarians. OLA Quarterly, 17(3), 16-21. http://dx.doi.org/10.7710/1093-7374.1332
- Sweet, C. (2012). The Role of Information Literacy in Service Learning Courses: A Case Study and Best Practices. Presentation at the LOEX Annual Conference Columbus, OH 5/4/2012.
- 17. Zayed University (2015). Action 2015 Service Learning Week. Retrieved 16 May 2018 from: http://www.zu.ac.ae/main/en/news/2015/March/action2015.aspx
- Zayed University (2015). High-Impact Educational Practices: A Brief Overview. Retrieved 16 May 2018 from: http://www.zu.ac.ae/main/en/_assessment_resource/Learning_Assessment/index.asp

RESEARCH REGARDING CONSUMER PROTECTION RIGHTS FOR PERSONAL DATA

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ABSTRACT

Artificial intelligence and large volumes of data pose major risks to privacy and data security.

This paper defines the nature of the problem and then outlines some aspects of the risks to consumers in the on-line environment. At the same time, the paper examines how the market confronts the specific risks in the current environment and highlights the challenges faced by researchers and policy-makers in the context of the information society.

Key words: consumer protection, personal data, GDPR

1. INTRODUCTION

In the early 1980s, economists tended to think of consumers' intimacy as an information asymmetry. For example, consumers want to hide their intention of having to pay, just as businesses want to hide their real profits; (Posner 1981; Stigler 1980).

The information economy suggests that both buyers and sellers tend to either conceal or disclose private information, and these types of behaviour are crucial to the efficient market evolution. In the context of a single transaction, a low degree of confidentiality is not necessarily a negative element for economic efficiency. Addressing consumer behaviour with artificial intelligence could facilitate better match between products and the type of consumer, and programs that help buyers assess product quality could encourage industry to focus on their needs.

The most obvious aspect of the new society is the speed of use, application and dissemination of the communication and information technologies, which puts in the shade the fact that there occurs a major transformation of concepts, structures and institutions specific to the previous society. (Repanovici et al., 2006)

These new concerns, cantered on consumer data processing, arise because technological advances that have radically reduced the cost of collecting, storing, processing and using data in high volumes extend the asymmetry of information far beyond a single transaction. These advances are often summed up by the terms "Big Data" (large volumes of data that can be analysed to discover patterns, trends and associations, especially related to human behaviour and interactions) and "artificial intelligence." Thus, Big Data refers to a large amount of transaction-related data that could identify issues related to individual consumers, consumer behaviour, or general and particular market characteristics.

Most popular analysis algorithms capture and process important data to understand, predict and even influence consumer behaviour. Modern artificial intelligence, used by specialized companies, could improve management efficiency, motivate innovation, and better link demand and supply. But information arriving in the wrong hands also allows for fraud and deception.

Due to the fact that the data can be stored, traded and used long after the transaction, it is predictable that in the future the data usage rate will increase with the development of the processing technology. However, future use of the data is obscure for both sides of the transaction when the consumer decides whether to give personal data in a transaction and the seller may be reluctant to restrict the use of data for a particular purpose, data processing or a certain time horizon in the light of future data technology. Even if it does not intend to use any data processing technology, the business can always sell the data to those who will use it to develop strategic analyses. These data markets cause the agent to collect as much information as consumers are willing to give. Informed consumers can anticipate vulnerabilities and risks and hesitate to give personal data. However, in many situations, identity and payment information is crucial to completing a transaction, leaving even the most informed consumers the choice between completing the transaction itself and the potential loss from possible fraudulent use of data. It can be argued that data usage is a new attribute of the product traded in a transaction; as long as the attribute is clearly passed between the buyer and the seller, through the privacy policy, sellers will respect the buyer's preference for limited data usage. Such consumer rights are guaranteed at EU level through the new Data Protection Regulation - GDPR.

Unfortunately, in practice, this attribute is not well defined at the time of transactions and may evolve over time in ways that depend on the entity's data policy, but are not entirely in vision, control, prediction, or evaluation capability of the consumer. This information asymmetry, if not analysed, controlled and limited, could lead to a lemon market in terms of future use of data, as pointed out by George Akerlof in his Lemon Market: Quality Uncertainty and Market Mechanism. According to this theory, the quality of goods traded on a market may degrade in the presence of information asymmetry between buyers and sellers, leaving only "lemons" behind. In the informal American language, a lemon is a car that proves to be defective only after it has been bought.

Incomplete information on future use of data is not the only problem that can be encountered in the relationship between artificial intelligence and consumer privacy. There are at least two other issues related to uncertainty about the future use of data and its value: one is outsourcing and the other is commitment.

Specifically, future use of data may be beneficial or harmful to consumers, so rational consumers may prefer to reveal to some extent personal data (Varian 1997). However, the benefits of future use of data may be internalized by the data collector through the use or sale of data to third parties. Instead, the damage caused by potential crimes - such as identity

theft or fraud - does not often apply to the collector, but to the consumer. Because it is often difficult to identify damage to consumers at a particular data collector, these damages cannot be anticipated by either party. This is partly since the victim of an offense could have communicated the same information to several economic agents and has no control over how the information can be used. The asymmetry between benefits and potential damage is a negative externalization from economic agents to consumers. Thus, if there is no clear way of identifying a leak, vendors tend to collect as much information about consumers as possible.

This difficulty in tracking the damage suffered because of data collector actions, corroborated with uncertainty about future use and collector practices, as well as asymmetry, is a vulnerability to consumers. Starting from a series of events that sparked consumer concerns about data usage, businesses tend to declare that they have implemented a solid data policy that protects consumers. However, there may be a lack of trust in the application of the declared data policy, if certain security incidents are disclosed to the public and contradict the assumed data policy. In any case, it is often difficult to discover the actual practices of data collectors and to remedy the harm suffered by consumers as a result of a security incident, since any court requires evidence of damage - as well as the demonstration of the causal relationship between the alleged damage and data collector practices.

Asymmetry of information concerns about outsourcing and commitment are challenges for artificial intelligence. More specifically, through the potential to increase the scope and value of data usage, artificial intelligence can increase the benefits and transaction costs of collected and stored data volumes.

However, data owners may have greater benefits than the risks consumers would be exposed to, so artificial intelligence could encourage the use of data that is abusive and irresponsible. For this reason, the new benefits of the information society could cause an agent to breach privacy and data security policies.

Data volumes have been found to raise three new issues for consumer confidentiality:

(1) Businesses have more information about our data than consumers;

(2) Businesses are not always obliged to take damage caused to consumers due to incorrect practices of a data collector;

(3) Businesses may promise a consumer-friendly data policy when collecting data, which they may subsequently infringe.

These three aspects encourage irresponsible data collection, data storage and the use of data for illicit purposes.

On the other hand, there are many techniques to mitigate privacy and data security risks. Therefore, the impact of artificial intelligence on private life must meet the needs of both economic operators and consumers.

2. RISKS RELATED TO DATA SECURITY

Vulnerabilities, threats and risks related to privacy and data security are becoming more and more current. These risks may be directly or indirectly related to artificial intelligence. Given that the opportunities offered by artificial intelligence increase the commercial value of data, companies are encouraged to collect, store and accumulate data, whether they will use the specific technologies themselves, or they will use data collectors. At the same time, large data warehouses become a primary target for hackers who have developed a real black data market

Over time, there have been numerous scandals generated by the security incidents that certain entities have suffered with regard to the protection and confidentiality of stored data. In 2005, seven violations of data security policies were reported in the US, exposing billions of personal information records to potential abuse. Such security incidents simultaneously affect millions of consumers and the information lost in one security incident is spreading rapidly. In 2013, Target was targeted by a computer attack, and hackers copied large volumes of data, mainly bank card numbers. The recent violation of the Equifax Convention in September 2017 affected 145 million people by exposing their social security number (equivalent to personal numerical code), banking history, and identity and civil status data. Major incidents occur especially with organizations that accumulate large volumes of personal data, whether they are public or private entities.

Causes of violation of data security rules vary. 10 to 15 years ago most of the incidents were caused by human errors. Nowadays, security incidents are the result of hacker attacks and attacks aimed at redemption.

Thomas et al. (2017) watched the dark web in 2016 and 2017, monitoring forums that sell illegally collected data, phishing kits, and even passwords from infected computers. Millions of potential victims have been identified.

In November 2017, hundreds of thousands of bank cards in Romania were auctioned on dark web by hackers.

Cyber security experts say card trading in eastern countries is just beginning. Until now, hackers were not interested in accounts from countries like Romania, because there was not much money in them.

On the dark web, the cards held by the Romanians cost from \$ 1 to \$ 500 for a single card.

Experts also believe that on the dark web there are hundreds of online platforms dedicated to those who sell or buy such data. They get here after cyber criminals have picked up bank data through fraud.

On the dark web we can also find websites that help those interested to change their identity completely. For an amount between \$ 6,000 and \$ 10,000, an American birth certificate, passport, driving license, and all necessary documents can be obtained. This phenomenon is closely linked to identity theft crimes.

According to the Bureau of Justice Statistics, identity theft affects 17.6 million (7%) of all US residents aged 16 and over (Harrell 2014). Constantly, identity theft is one of the most crimes in the United States, representing a high proportion of consumer complaints. Mostly, identity theft is based on personal data lost by the processors and information obtained through computer attacks.

Researchers have attempted to establish a causal link between inappropriate data usage and consumer harm. Romanosky, Acquisti and Telang (2011) analyze the differences between data protection laws and notes that adopting a robust regulatory framework greatly reduces data security breaches. Romanosky, Hoffman and Telang (2014) examined the various breaches of data protection legislation from 2000 to 2010. It was found that the chances of a company being sued are considerably higher when consumers suffer financial damage. Telang and Somanchi (2017) analyzed the consequences of abusive use of data. Using data related to transactions from a US bank, they find that there are chances that some consumers will give up a bank's services if they have been the victim of a security incident imputable to the bank. However, it remains difficult to attribute to a particular entity the outcome of a security incident.

Neither public entities were hindered by hackers. A few years ago, the IRS was the target of a cyber-attack through which 100,000 US taxpayer accounts were affected. Following this incident, personal information was stolen from citizens. It is worth mentioning that the incident occurred because the hackers managed to eliminate an authentication process that requires data such as the social security number of the taxpayer, date of birth, or address. Thus, it can be noticed that a security incident can be closely related to another previous incident.

In other words, hackers used information that could come from other attacks, or they could be purchased from the dark web. Thus, it is found that a vulnerability could affect the security of data held by a fully independent entity.

Personal data is not only available to large companies that interact directly with consumers, who have a solid and accessible data security policy that can use artificial intelligence for legitimate purposes. This data is also available to small entities that are difficult to monitor and cannot use this data in a discretionary way and without the consumer's consent. Clearly, the latter are more dangerous, whether they are active on a market or not. At the same time, small entities do not have sums that they can invest to protect the data they collect or process, and their liability to consumers is often limited, both financially, but also reputationally.

3. CONCLUSION

Privacy and data security raises challenges that concern both data technologies and legislation.

This raises the question whether the market will evolve based on current laws, or whether states will seek to impose stricter regulations. At the same time, the current context makes us take a look at the privacy policy that economic agents and public entities implement, and it is necessary to balance innovations based on artificial intelligence in relation to the additional risk posed by technological developments in terms of confidentiality and data security.

At present, it can be said that the entities are not fully responsible for the risk to consumers. In order to restore full responsibility, a number of conditions must be met, including:

(1) the ability to know the actual practices of entities in terms of data collection, storage and processing;

(2) the possibility to predict and assess the consequences of irresponsible use

(3) establishing causal links between a security incident and quantifiable damage.

These issues concern both the legislation and the practices of the entities.

In the short term, a viable approach is based on firm notification and consumer choice. Notification and choice are prerequisites for the application of clear terms and conditions, and the GDPR Regulation places great emphasis on them.

In order for this approach to be effective, it is necessary for consumers to be able to make the best choice for themselves and this requires them to have adequate information. However, there are some difficulties in practice because most consumers do not read data policies and many businesses may not have a consumer-friendly interface that allows them to choose, having the ability to evaluate different data practices and without the possible damage.

A viable medium-term approach could be self-regulation of the industry. Entities collecting, storing and processing data know data technology and are therefore better positioned to identify best practices. However, can we have enough trust in firms to give them the possibility to impose regulations that concern them directly?

Regardless of the evolution of technology, knowledge-based information society forces us to define data as intangible assets and to associate any practice related to the data to the patrimonial rights of the person.

The impact of GDPR raises many challenges for the industry and is worth analysing. At the same time, even if data ownership rights can be clearly defined and regulated, it does not guarantee their compliance.

Given the major impact of artificial intelligence and large volumes of data on the economy, it is important that each state strive to create a friendly environment that respects the consumer's need for confidentiality and data security, but in the same encouraging and promoting consumer-friendly innovations.

4. LITERATURE

- 1. E. Harrell, Victims of Identity Theft, 2014, Bureau of Justice Statistics
- 2. R. A. Posner, The Economics of Privacy, 1981, in American Economic Review
- 3. G. J. Stigler, An Introduction to Privacy in Economics and Politics, 1981, Journal of Legal Studies
- 4. A. Repanovici, Exploitation of Informational Resources within Knowledge Society: Digital Library, 2006, in Aspects of the Digital Library, LAKSEVÅG 2006
- 5. S. Romanosky, D. Hoffman, A. Acquisti, Empirical Analysis of Data Breach Litigation, 2014, Journal of Empirical Legal Studies
- K Thomas, et al., Data Breaches, Phishing, or Malware? Understanding the Risks of Stolen Credentials, Proceedings of the 2017 Conference on Computer and Communications Security
- 7. H. R. Varian, Economics Aspects of Personal Privacy., 1997, in Privacy and Self-Regulation in the Information Age.

SERBIAN CHURCH ARCHIVISTICS - THE ROOTS, BEGINNINGS AND THE FUTURE

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ABSTRACT

The paper discusses the expansions and historical beginnings of the archival activity in the Serbian Orthodox Church. The emphasis was placed on the fate and position of the archival material that was moved from the building of the Patriarchal Palace in Belgrade to the gallery space and the bell tower of the church of St. apostle and evangelist Marko in Belgrade in 1989. The work of the organised Archives of the Serbian Orthodox Church, created in 2007 by the signing of the Protocol on Cooperation between the Holy Synod of Bishops of the Serbian Orthodox Church, the Ministry of Culture and Information of the Republic of Serbia and the Archives of Serbia, was briefly described. It also provided an overview of existing archival funds, with age limits and features of historical documentation being covered.

Keywords: Serbian Orthodox Church, archives, Archives of the Serbian Orthodox Church, archivistics

THE FORERUNNERS OF THE ARCHIVISTICS IN THE SERBIAN ORTHODOX CHURCH

Christianity as a religion of books and literacy in the broadest sense of the word also influenced on the development of administration, encouraging and developing the recording of events at certain moments of religious life. The sacred life of today even is being followed by administrative consequences. The Church issues documents that testify to certain moments of spiritual experience for individuals such as Baptism certificate, wedding certificate, death certificate, testimony of the priest's establishment (charter, singel¹), testimony of praise in priesthood, etc. Registers of married, baptized and deceased represent an important source, not only in the micro-accession to family and local history, but also important for serious sociological and demographic research². Most medieval Serbian documentary sources are of ecclesiastical origin, reflecting the property-legal relations of certain eparchies, monasteries and temples, accommodating them further in society.

¹ Presbiterian rank in Orthodox Church

² Miroljub Arsic, "Church registers in the legal regulations of the Principality of the Republic of Serbia", Archives Review - Official Gazette of the Archives of Serbia and the Archives Service of the Republic of Serbia, ser. 1-4, 2000: 52-59; Jasmina Zivkovic, "Protection of church registers in Branicevo district", Records - Yearbook of the Historical Archive of Požarevac, ser.1, year 1, 2012: 40-49.

Archivistics, as a special discipline, was formed with the awareness that it is necessary to preserve the documentation of state administration bodies and other jurisdictions with public labour law in the 18th century. At the same time, church archives were arranged also. The historical circumstances of the Serbian people, the crash of the medieval state, the struggle for new-age freedom have also been determined the general circumstances of the national church life. Certain discontinuity and diffusion of the folk past have also been transferred over on to the church life. The extension of medieval autocephaly was the Karlovac Metropolitanate (the church area in the Habsburg monarchy/Austro-Hungarian Empire), which brought together the Orthodox Serbs there and having its own way of management and administration in 1690-1918. The office business of the Karlovci Metropolitanate depended, in part, on the state regulations in which it was located and on the ways in which the churches customs of Orthodox Christians (Serbs, Romanians, Ruthenians) were settled in the dominant Roman Catholic state. The Serbian Orthodox people, on the territory south of the Sava and the Danube rivers, after 1766, lost the representatives from their ranks in the high ecclesiastical administration, the bishops, with the cooperation of the Turkish authorities and the Greek ierarchy³, and the Greeks, phanariotes⁴. Few written traces of such ecclesiastical authority reflect the most frequent economic moments, concern for material benefits, strictly defining the rights of the lower priesthood to higher spiritual authorities.

Medieval archival material of church origin has been preserved mainly from property-legal relations of monastery and monastic families. As for other ecclesiastical writings from the Patriarchal and Episcopal offices, most of it was damaged and disappeared in the turmoil of national history that, with the Turks' invasion, took on forms of agony and tragedy, filled with extortion, bloody wars and the crushing of Christian sanctuaries.

Also, the statement of educated person Radoslav Grujic (1878-1955) should be taken into account, who, speaking of the grim state of the church archives and archival documents, wrote: "But there is no doubt that a significant part has failed due to the negligence and ignorance of the representatives of various church institutions in which the old archives were located".⁵

We see the ancestral church archivalism in personalities such as Pajsije of Janjevo, the patriarch of Pec, (1614-1647) and the bishop of Pakrac, Sofronije Jovanovic (1743-1757). Patriarch Pajsije of Janjevo left a series of records and testimonies about the attitude towards books, first of all those that were necessary for worship.⁶ In addition to being the

³ ierarchy - church power that originates from Jesus Christ himself

⁴ *Phanariotes* - members of prominent <u>Greek</u> families in <u>Phanar^[11]</u> (Φανάρι, modern *Fener*),^{[21} the chief Greek quarter of <u>Constantinople</u> where the <u>Ecumenical Patriarchate</u> is located, who traditionally occupied four important positions in the <u>Ottoman Empire</u>: Grand <u>Dragoman</u>, Grand <u>Dragoman</u> of the Fleet, <u>Hospodar of Moldavia</u>, and <u>Hospodar of Wallachia</u>. Despite their cosmopolitanism and often-Western education, the Phanariotes were aware of their Hellenism

⁵Radoslav Grujic, The alphabet of the Serbian Orthodox Church, (Belgrade: Prosveta: 1996), 16-17.

⁶ Djoko Slijepcevic, Pajsije Archbishop of Pec and Patriarch of Serbia as an ierarch and a literary worker, (Belgrade: Faculty of Theology, 1933), 44-48.

classic book fan of one ierarch, in 1644, he mentioned some restoration-conservation procedures that are still being applied today: "Again, I found a trapped (ruined) and guarded by none, and I took it and washed, as far as I could, so I put it where it was, to be on the service of St. Father (Joakim Osogovsky, remark by the author), myself, calm Pajsije, archbishop of Pec, with my hand".⁷ Based on one record from 1642, it can be concluded that the patriarch was also acquainted with the bookbinding craft: "At some time I moaned (linked) this divine book, by myself, calm and with lots of sins, archbishop of Pec, Pajsije"...⁸ The Patriarch's cultural program consisted in encouraging the printing, copying and restoration of the ancient liturgical and theological books. Isaija, the priest from the monastery of Sretenje Rudnicko has "restored the Bible", which would be the same as today's restoration.⁹ This is just one example of a "repetition" or "restoration" of a book that has been "demolished" or "wasted." In some of his literary-hagiographic works, we find hints of historical criticism through the use of documentary sources. The patriarch in his "Zitije cara Urosa"¹⁰ that his task was to see "from where the Serbs had cursed", and various documents for his writings he had found, as he said: "I found one in the Serbian chronicle, the other in the genealogy, and in the Chrysobulls of Pec, which is still in the church of Pec".¹¹

The best state of archival material was on the territory of the Karlovac Metropolitanate, that is, the Serbs who were under the Habsburg rule. This material comes from diocesan, monastery, consistor and parochial archives. The Patriarchate Archbishop of Sremski Karlovci was the best arranged. It contains several acts from the 17th century and many important documents starting from the first half of the 18th century. The archive was established by order of the Illyrian court office on 21 May 1777, and the work was accepted by a special commission composed of representatives of the Church and state.¹² On the state side the following were employed, Josef Jakobi as the general secretary in Osijek Headquarters and the registrar Handesen von Eggendorf.¹³ The aforementioned bishop of Pakrac, Sofronije Jovanovic (1743-1757), devoted "special attention to the archive in which all documents he sorted personally and they transferred to Sremski Karlovci in 1758".¹⁴

Serbian National Revolution 1804-1815 won political freedom that remained the same during the 19th century in its quality and scope. Renewed Serbia has crossed the road

⁷L jubomir Stojanovic, *Old Serbian records and inscriptions*, vol. I, (Belgrade: Serbian Royal Academy,1902), 350 ⁸Lj. Stojanovic, *idem*, 346.

⁹ Lj. Stojanovic, *idem*, 307.

¹⁰ "The Life of Emperor Uros"

¹¹Tomislav Jovanovic, *Literary work of Patriarch Pasije*, (Belgrade: Holy Archbishop Synod of the Serbian Orthodox Church, 2001), 283

¹²R. Grujic, *idem*, 17.

¹³Zarko DImic, A review of the history of the Serbian Academy of Sciences and Arts' Archive in Sremski Karlovci (1949-2009), (Sremski Karlovci: Cultural center Karlovca art workshop, 2010), 15

¹⁴Sava Vukovic, *Serbian ierarchs from the ninth to the twentieth century*, (Belgrade, Kragujevac, Podgorica: Evro, Unireks, Kalenic, 1996), 461.

from the semi-ducal Principality (Hatt-i humayun¹⁵ 1830 and 1833) to the recognised state (Berlin Congress in 1878). The Orthodox Church in the Principality of Serbia went through the national emancipation of the throne of the Universal Patriarchate in Constantinople, first by establishing the national ierarchy (*see under*³), and then by acquiring church autonomy in 1830, and after the autocephaly of the Belgrade Metropolitanate in 1879.

Nevertheless, on the ecclesiastical archivist, having a retrospective view, it cannot be spoken of as a professional (or appropriately applied) scientific field. Characteristically, for a period of economic stability for the Church and favorable cultural work, in the period between the two world wars 1918-1941. and church librarianship and museology had their protagonists, while archivistics was neglected and undeveloped. There was an inertial administrative work, but the systematic protection and care, arrangement and use of archival material did not exist in the plans of educated church people.

During the Patriarchate of Varnava Rosic (1930-1937), the foundations of many cultural institutions in the Church (Congregation) of the Serbian people were struck, or the existing institutions improved and improved their work. One practically program text by PhD Radovan Kazimirovic, published in 1930, spoke about new challenges posed before the Serbian Orthodox Church, and in fact, he was discussing the founding of the Patriarchal Library, the Printing House, the Sculpture School, the Music School and the Church Museum. Apart from the Church Music Academy, all institutions still exist and have a good tradition of work. But even then, no one was thinking about a real archive.¹⁶

Archival material on the bell tower of the church of St. Marko in Belgrade

The beginning of the 1990s brought heavy moments to the archival material that was in the Serbian Patriarchate building in Belgrade. In this building of the high ecclesiastical administration and patriarchal representation, which was erected in 1935, there was the archival heritage stored that originated from the 19th century and was created in the central bodies and organs of the united Serbian Orthodox Church after 1918. However, in 1989, with the aim of removing the space and putting the printing house in, with aim to meet the needs of missionary work after the fall of the communist regime, archival material was moved to the gallery space and to the bell tower of the church of St. apostle and evangelist Marko in Belgrade. The material was placed in an unprepared space, the transport of the material was executed in a stichy and without a record, archives were left to oblivion, submerged in anxiety. Thus, at the end of the 20th century, the same trend continued by using the attic, then the gallery and under the dome space as places for depositing and storing of archival material.¹⁷

¹⁵ *Hatt-i humayun* - is the <u>diplomatic</u> term for a document or handwritten note of an official nature composed by an <u>Ottoman Sultan</u>.

¹⁶Radovan Kazimirovic, "New tasks of the Patriarchate - dedicated to His Holiness Patriarch Varnava, Vesnik - weekly church-political paper,XI/1930, ser. 16, 1.

¹⁷In British history, there is an example of how William Prine (1600-1669) arranged the documentation in the Royal Chapel of London Tower. (James Westfall Thompson, A History of Historical Writing, vol. II, (New York, 1942),

It should be borne in mind that at the end of 2004, Minister of Religion in the Government of the Republic of Serbia PhD Milan Radulovic raised the issue of church archival material that for 15 years "had been under the dome of St. Marko Church, exposed to decay and completely inaccessible to the scientific public".¹⁸ In one of his public appearances, the statement for "Politika", Minister M. Radulovic boldly said: "I know that part of church circles will criticize me that I have mentioned this problem to journalists, which for years has been a public secret about which it was deliberately silent in order not to break up the grudges, but I think that throwing problems under the carpet is not the way how to solve it. By not tackling this problem and agreeing that such important historical material collapses on a windmill in a church bell tower, it is just participating in a cultural genocide." It was said that "the most valuable papers of the Serbian Orthodox Church in the dome of St. Mark's Church "were still in the "dovecote"¹⁹, that these were "catastrophic conditions" with the church-folk history "being among the pigeons".²⁰

The status of archival material from the last two centuries of Serbian church history was seriously set up by signing of a protocol on cooperation between the Holy Synod of Bishops of the Serbian Orthodox Church, the Archives of Serbia and the Ministry of Culture and Information of the Republic of Serbia on 14 December 2007. Signatories to this historical document were the Metropolitan of Montenegro and Primorje Amfilohije Radovic, PhD Miroslav Perisic, Director of the Archives of Serbia and the Minister of Culture and Information Vojislav Brajovic. The signing of the above protocol was publicly rated as opening the new period of cooperation between the church and the state in the field of culture.²¹ The Director of the Archives of Serbia, Dr. Miroslav Perisic, pointed out the burning problem that the SPC"does not have a building for its archives", saying that the signing of the Protocol on Cooperation was" one of the most significant successes of the Archives of Serbia".²² "It is a huge amount of archival material starting from 1830, so it is

- ¹⁸R. M., "Rescuing the Archive of Serbian Orthodox Church", Blic, 24 December 2004
- ¹⁹M. Radetic, "Archive in dovecote", Vecernje novosti, 6 December 2006
- ²⁰I. Micevic, "History among the pigeons", Vecernje novosti, 23 November 2007
- ²¹ M. V., "New epoch in the Serbian archivistics", Blic, 15 December 2007

^{40,} Elisabeth Hallam, "The Tower of London as a Record Office", *Archives - The Journal of the British Record Association*, Vol. XIV, No. 61 (1979): 3-10). A characteristic example that an important volume of the file was located on the bell tower of an Orthodox church is in connection with the library and the rubric heritage of Zaharije Stefanovic Orfelin 1726-1785. The great bibliofil, the erudite among Serbs, historian, poet, copper, graver, calligrapher, he collected and read books in all European languages. This baroque enlightener collected a library, which, according to the assumptions of some writers, I placed on the tower of the Cathedral Church in Sremski Karlovci, in a safe and protected place. After Orfelin's death, the library went into the property of the Cathedral Church and was entered into her inventory. (Ljubomir Kotarcic, *Library of Zaharije Orfelin and its Historical Fate*, Librarian, Year 35, No. 2/3 (1983): 9). Likewise, archivists of the Archives of Serbia in Dubrovnik, working with the archives of the local Serbian Church Municipality, found the material in the attic of the parish home. (Slobodan Kljakic, "Secrets on the lawn of the SPC parish house in Dubrovnik", Politika, 20 September 2010).

²² "There is no history of Serbian society and history of Serbia without the history of the church, and it is not possible without the archival material of church provenance" (Slobodan Kljakic, "The Invisible Battle for Documents", Politika, 21 January 2008)

clear from what importance it will be saved from decay, protected and arranged according to archival standards".²³

The protocol on cooperation has designed a final solution - a purposely made building for the care and work with archive material. Through two years of cooperation between the Holy Synod of Bishops and the Archives of Serbia, the work of the archival service of the Serbian Orthodox Church has been led by Predrag Puzovic, professor at the Faculty of Theology, and financed by the Ministry of Culture through budget funds" and people who worked on the bell tower of Marko Church came to the conclusion that" there is a need for at least 2,500 square meters in order to have all material at one spot."²⁴ Archivists faced difficulties in working in an inadequate space, and church archivist Zarko Sarcevic (graduated theologian and senior librarian) stressed: "At the beginning, there were six of us from the SPC and three from the Archives of Serbia. Now we are just the two".²⁵

Patriarch Irinej showed concern for the storage and position of archival material when he and the director of the Archives of Serbia visited the under dome area, gallery and belfry of the Church of the St. Marko in Belgrade in late August 2011, saying: "So far, it has been done a lot and very important, and we hope that the work on preserving and treating the archives will continue, and then find a permanent solution, that the archive will get its building".²⁶

The work of the Archives of the Serbian Orthodox Church began to intensify in autumn 2012. The development of archival infrastructure, first of all the basis for the depot of the material of the older and the newer period, went along with the course of the chronological classification of the archival material found. The work with the archives was shown as the only possible thing, since neither the church nor the state authorities, despite demonstrated good will, did not settle the accommodation space for the full capacity of professional work with archival material, its protection, arranging and giving for use.

At the end of 2012, a new archival team was formed in the Serbian Orthodox Church, with enhanced crew supported by archivists and archival advisers of professional experience and credibility. Jovan Pejin archive advisor, once director of the Archives of Serbia, and PhD Miloje Prsic, former director of the Military Archives in Belgrade. An additional agreement on Business-Technical Cooperation was signed with the Archives of Serbia at the beginning of November 2012, which included the involvement of four more archivists. Chronological classification, which was carried out on the gallery space of the church of St. Apostle and Evangelist Marko in Belgrade showed the diversity of the archival

²³ Idem.

²⁴ S. Radojevic, "Archive of SPC still in bell tower", Blic, 24 May 2009.

²⁵Idem. The two archivists who worked in 2009 were Zarko Sarcevic and Milinko Cancarevic.

²⁶Jelena Calija, "Church archive under dust deposits", Politika, 25 August 2011

heritage of the Serbian Orthodox Church, the plethora of archival funds and their significance.²⁷

LITERATURE

- 1. Arsic, Miroljub. "Church registers in the legal regulations of the Principality of Serbia "Archives Review Official Gazette of Archives of Serbia and archival service in the Republic of Serbia, no. 1-4 (2000): 52-59.
- 2. Vukovic, Sava. *Serbian Hierarchs from the ninth to the twentieth century*, (Belgrade, Kragujevac, Podgorica: Evro, Unireks, Kalenic, 1996)
- 3. V., M.. "The new epoch in the Serbian archivist", Blic, 15 December 2007
- 4. Grujic, Radoslav. *The alphabet of the Serbian Orthodox Church*, (Belgrade: Prosveta: 1996)
- 5. Dimic, Zarko. A review of the history of the SANU Archive in Sremski Karlovci (1949-2009), (Sremski Karlovci: Cultural center Karlovca art workshop, 2010)
- 6. Zivkovic, Jasmina. "*Protection of church registers in the Branicevo district*", Zapisi Yearbook of the Historical Archive Požarevac, ser. 1, yr. 1, (2012), pp. 40-49.
- 7. Jovanovic, Tomislav. Literary work of Patriarch Pajsej, (Belgrade: The Holy Archdiocese Synod of the Serbian Orthodox Church, 2001)
- 8. Kazimirovic, Radovan. "New tasks of the Patriarchate dedicated to His Holiness Patriarch Varnava", Vesnik weekly church-political paper, XI / 1930, no. 16: 1.
- 9. Kljakic, Slobodan. "Secrets on the lawn of the SPC parish home in Dubrovnik", Politika, 20 September 2010
- 10. Kljakic, Slobodan. "Invisible battle for documents", Politika, 21 January 2008
- 11. Kotarcic, Ljubomir. *Library of Zechariah Orfelin and its Historical Fate*, Librarian, Year. 35, no. 2/3 (1983): 9.
- 12. Kuburovic, Mirjana. "Church Archives Among Pigeons", Politika, 26 December 2004
- 13. Micevic, I.. "History among Pigeons", Vecernje novosti, 23 November 2007
- Pilipovic, Radovan. "Renewal of the Work of the Archives of the Serbian Orthodox Church - Beginnings and Difficulties", Bratstvo - journal of the Sveti Sava Society, vol. XVII, Belgrade (2013): 127-136
- Pilipovic, Radovan. "The Principle of Free Provenance in Fundraising Funds SPC Archive - Example of Application to the Fund" Holy Archdiocese Synod (1920-1941)", Gazette of Archives and Archival Associations of Bosnia and Herzegovina, XLV, Sarajevo (2015): 36-44.
- Pilipovic ,. Radovan "Eighty years of church administration and archival business in the Metropolitanate of Belgrade / Archdiocese of Belgrade-Karlovac (1836-2016)", Calendar of the Serbian Orthodox Patriarchate for the Terror Year 2016, Belgrade (2015): 128-139.
- 17. R., M .. "Rescue of SPC archives ", Blic, 24 December 2004

²⁷Radovan, "Restoration of the work of the Archives of the Serbian Orthodox Church - beginnings and difficulties", *Bratstvo - Journal of the Society of St. Sava*, Vol. XVII, Belgrade, 2013, pp. 127-136
- 18. Radetic, M .. "Archive in the Pigeon", Vecernje Novosti, 6 December 2006
- 19. Radojevic, S .. "SPC Archive still in the belfry", Blic, 24 May 2009
- 20. Slijepcevic, Djoko. *Pajsije Archbishop of the Pecs and Patriarch of Serbia as Jericho and a literary worker*, (Belgrade: The Faculty of Theology, 1933)
- 21. Stojanovic, Ljubomir. *Old Serbian inscriptions and inscriptions*, Vol. I, (Belgrade: Serbian Royal Academy, 1902)
- 22. Thompson, James Westfall. A History of Historical Writing, Vol. II, (New York, 1942)
- 23. Hallam, Elisabeth. "*The Tower of London as a Record Office*", Archives The Journal of the British Record Association, Vol. XIV, No. 61 (1979): 3-10.
- 24. Calija, Jelena. "Church archive under dust deposits", Politika, 25 August 2011.

Summary: Arranging and protecting archival material in the Serbian Orthodox Church - Experiences of the Archives of the Serbian Orthodox Church

An organised archive activity in the Serbian Orthodox Church is very young. The work on this field was initiated by a protocol on cooperation signed by the Holy Synod of the Serbian Orthodox Church, the Archives of Serbia and the Ministry of Culture and Information of the Government of the Republic of Serbia on 14 December 2007. More serious steps were undertaken only in 2012, in order to protect the archival heritage of Serbian church provenance, which was physically and materially neglected and forgotten, in that way for decades was not available to any scientific work and research. Despite the fact that the issue of accommodation of church archival material of the first-class national, historiographical and cultural significance was not solved, the Archives of the Serbian Orthodox Church approached the archival arrangement of their funds in situ, precisely where the archival documentation was found, in the gallery space and the bell tower of St. Apostle and Evangelist Marko in Belgrade. This confirms the old tradition that church belfries have been in a certain way and archival depots. The Archives of the Serbian Orthodox Church have been working in arranging of archival material since 2012 (inventories and other information tools were made), then publishing and exhibiting activities (exhibitions have been organised, catallogues and Proceedings were printed), as well as other projects, such as the digitisation of the oldest chronological strata of archival documents (from the Fund of the Consist of the Metropolitanate of Belgrade, starting from 1836). In the year 2016 a conservation laboratory was built.

All this contributes to the fact that archival material originated from the public activity of the Serbian Orthodox Church in its historical walk get more approachable to the researchers.

ANALYSING INFORMATION AND WRITING LITERATURE REVIEW USING NVIVO: GENDER ROLE ON ENTREPRENEURIAL INTENTION

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ABSTRACT

Regardless of the enormous information that is available, it is important to analyse it especially in writing a literature review in a particular field. Motivated by this issue, this paper contributes on how to analyse information and to write literature review using NVivo computer software package. NVivo is a professional qualitative software, which deals with qualitative research studies working with text and/or multimedia information. Suggestions are given on how to do this using NVivo. Its outputs were visualized. 61 research studies from Web of Science and Scopus databases dealing with gender role on entrepreneurial intention were selected and analysed.

Key words: analysing information, literature review, NVivo, entrepreneurial intention, gender

1. INTRODUCTION

Scholars involve in projects dealing with interpretation of unstructured or semi-structured data for a variety of reasons. These may include different type of research studies such as exploration, description, comparison, pattern analysis, theory testing, theory building, or evaluation (Bazeley & Jackson, 2013). Authors who deal with qualitative research, for instance Maxwell (2013) and Richards and Morse (2013), urge researchers to assess the fit between aim and method, with the choice to use a qualitative approach being determined by the research question and purpose, rather than by prior preference of the researcher. Generally, qualitative methods will be chosen in situations where a detailed understanding of a process or experience is wanted, where more information is needed to determine the boundaries or characteristics of the issue being investigated, or where the only information available is in non-numeric (e.g., text or multimedia) form. Such studies typically necessitate gathering intensive and/or extensive information from a purposively derived sample (Bazeley & Jackson, 2013).

The process of analysing literature review is close to qualitative research, since scholars should find, analyse and synthetize relevant theories, to formulate a conceptual framework, to select a particular research designs to their research problem.

Consulting with the literature review in a specific field and writing it is an important phase of the research process that scholars should follow. The main purposes why researchers do the literature review are because they want to clarify their research problem and to get some clear ideas on how to deal with specific issues (for instance, analyse the research problem, developing the hypotheses, design the conceptual framework and research design), to avoid replication or duplication of the studies that are already conducted, as well as to develop their research strategy by showing what did not worked in the past (Ethridge, 2004). Hence, writing the literature review for a research is considered crucial.

However, analysing and writing literature review is not that easy, not because of lack of information but mainly because of enormous information that is available in contemporary times. This leads to the need of developing and using professional computer software that helps scholars on analysing information. Based on the above discussion, the aim of this paper is to give some practical suggestions on how to analyse information and to write literature review using NVivo computer software package by facilitating the work that should be done by scholars.

To concretise how to use that software, it was selected a specific topic on the literature in the field of entrepreneurship, which deals with the role of gender in entrepreneurship intention. Most of the studies were drawn on the theory of planned behaviour proposed by Ajzen (1991).

The rest of the paper has been organized as follows. Section 2 is dedicated to *Methods and procedures* that were selected and followed to achieve the aim of the paper. Section 3 describes how to use NVivo to analyse the information and how to use it on writing the literature review by visualizing some of the NVivo's outputs. Lastly, section 4 sums up the main remarks of this paper.

2. METHODS AND PROCEDURES

The aim of this paper is to show how to analyse scientific papers and how to write literature review using NVivo computer statistical software. The research unit are research studies conducted by scholars in the field of entrepreneurship, specifically those studies which analyse gender role on entrepreneurial intention.

61 papers from Web of Science and Scopus databases relevant to this topics were selected and imported into Mendeley reference manager (n.d.), and then they were exported for further processes in NVivo (n.d.). More than half of studies (54%) were from these journals: Entrepreneurship Theory and Practice (6 articles), International Entrepreneurship and Management Journal (7), Journal of Small Business and Entrepreneurship Development (6), Education + Training (4), International Journal of Gender and Entrepreneurship (4), The International Journal of Management Education (3) and The Journal of Technology Transfer (3). There are several computer software available that can be used to analyse information, and through that, analysing literature review. According to Capterra (n.d.), three best qualitative data analysis software in 2018 were NVivo (qualitative text data analysis system for use in analysing clinical trial results, survey responses, text, video etc.), ATLAS.ti (qualitative data analysis tool that can be used for analysing documents, websites, and social media data), MAXQDA (qualitative data analysis solution that groups and analyses data by text group, code system, text browser, and retrieved segments). Furthermore, Suciu, Cotoros and Repanovici (2017) used VOS Viewer and CitNetExplorer to conducted a scientometric study to quantify the global research activity in the field of physical work condition and long term inclinometry among dentists.

NVivo is a qualitative data analysis computer software package, which deals with qualitative studies working with very rich text-based and/or multimedia information, where deep levels of analysis on small or large volumes of data are required. NVivo was developed by researchers, and continues to be developed with extensive researcher feedback to support researchers in the varied ways they work with data. The efficiencies afforded by software release some of the time used to simply 'manage' data and allow an increased focus on ways of examining the meaning of what is recorded. The computer's capacity for recording, sorting, matching and linking can be harnessed by researchers to assist in answering their research questions from the data, without losing access to the source data or contexts from which the data have come. In some instances, researchers reported that the software opened up new ways of seeing their data they missed when managing the information without software (Bazeley & Jackson, 2013).

NVivo allow you to analyse and share the results, relationships, and patterns within the data of your project by creating a visualization of what you want to find. Some of the types of visual displays NVivo can produce are: Charts, Cluster Analysis Diagrams, Tree Maps, Graphs, Tag Clouds, Word Trees. In this paper are shown: Tag Clouds, Word Trees, Tree Maps and Cluster Analysis Diagrams (how to compute these, refer to the guidelines provided by Library La Trobe University (2015)).

2. WORKING WITH NVivo

There are some ways how to import sources (texts or multimedia type) in NVivo. If your resources are available in a reference manager software (for instance, Mendeley, EndNote, RefWorks, etc.), then they can be imported into NVivo as BilTeX, RIS, XML etc. In Figure 1 is shown a view of the working file in NVivo 10.

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Figure 1. Workfile view in NVivo 10

One of the most used option in NVivo is Queries, which can be used for text search, word frequency, coding, matrix coding, etc. Below are illustrated some of these queries. The first one shown here is the text search query. Text search query will find, in selected sources or in text coded at selected nodes, all instances of a specified word or phrase or set of alternative words. The capacity to search through sources and identify passages where a particular word, phrase or a set of alternative words is used as a pointer to what is said about a topic unquestionably offers the hint of a 'quick fix' to coding, at least where an appropriate keyword can be identified (Bazeley & Jackson, 2013).

Figure 2 illustrate the output of the text research query run for "gender differences" term among 10 selected articles that deal with the role of gender in entrepreneurial intention. Beside what Bazeley and Jackson (2013) described the importance of this query, it help the researcher to think about "telling the story" related to the term.



Figure 2. Text search query for "gender differences" term among 10 selected articles How to do in NVivo10? *Query -> Text Search -> fill in the form -> Run*

The frequency word query is the second one that is performed in this paper. The word frequency query will search selected text and identify the (up to 1,000) most frequently used words in that text, displaying finds as a summary list or tag cloud (Bazeley & Jackson, 2013). Review the list of words found, then follow up by reviewing particular keywords in their immediate context, or save them as a node. The word frequency query will find words used in sometimes surprising ways and can be useful for exploratory work, but it is not a magic alternative to interactive coding. This query provides several ways of outputs, which are: summary (shown as a table in which you can see which word is the most repeated among your selected sources and how many each word is used), word cloud, map tree and cluster analysis.

Figure 3 illustrates the word cloud output of this query applied for 30 most frequent words in 61 sources. As it can be seen, it is easy to understand that 'entrepreneurship' and 'entrepreneurial' are the most frequent words used. Hence, during the reading process of these sources it is expected to face mostly with terms such as: entrepreneurship, entrepreneurial, business, education, students, university, gender etc. This also suggest what words to use during writing the paper.



Figure 3. Word cloud of 30 most frequent words How to do in NVivo10? *Query -> Frequent Words -> fill in the form -> Run -> Select Word Cloud*

The tree map output for 30 most frequent word that are used among 61 sources is illustrated in Figure 4. This is consider as one of the most powerful output regarding analysing literature review and thinking about to write it. The tree map shows which the most used words are and how they are linked together. The size of the rectangle indicate how frequent is that specific term comparing to the other ones. As it can be

seen, the rectangles dedicated to 'entrepreneurship' and 'entrepreneurial' are the biggest. On the other hand, terms such as 'small', 'value' and 'level' have the smallest rectangles, showing that they are the least frequent used words among 30 terms. In addition, the tree map output inform about the linkages between terms. Thus, the 'business' and 'entrepreneur' terms are located next to the 'entrepreneurship' term showing a conceptual relations between them. Furthermore, 'entrepreneurial' term is followed by 'education', 'students', 'intentions', 'gender' and 'studies' terms, indicating closed relation with each other. Therefore, a researcher might use these relationships while he/she is handling with the literature review, in particular during the writing process of the literature review.

entrepreneurship	business	university	entrepreneu	self	intention	women	
		research	study	social	model	role	
entrepreneurial	education	intentions	managemer	behavior	control	impact	
	students		theory	developme	evel v	value small	
		gender	start	studies	perceive	upport	

Figure 4. Tree map of 30 most frequent words

How to do in NVivo10? Query -> Frequent Words -> fill in the form -> Run -> Select Tree Map

Cluster analysis can be both a useful and a powerful tool, but its use must be tempered with common sense and in-depth knowledge of the raw data. Interpretation is only as good as the procedures that precede it, and applying structure to an unfamiliar data set will have little meaning for even the most seasoned researcher. Used properly and solidly grounded in the data, cluster analysis can help provide meaningful structure to qualitative data analysis and thematic interpretation (Bazeley & Jackson, 2013).

Cluster analysis provides an overview of the structure of the data, allowing you to gain some distance to supplement your thematic understanding arising from close reading of your sources (Bazeley & Jackson, 2013). NVivo's clustering tool assesses the similarity of sources, based on either the similarity of words used in those sources, or the similarity of

coding that has been applied to the text or images in those sources or nodes. Those similarities are then presented as a horizontal or vertical dendrogram, graphed in two- or three-dimensional space (using multidimensional scaling), or as a circle graph, accompanied by a list of the statistical measures of association between all items in the display. However, clustering data based on similarities in content of qualitative data is generally best used in an exploratory manner, to provoke ideas, rather than as explanatory evidence of association.

Figure 5 illustrate one type of the cluster analyses called dendrogram. It shows the cluster analysis of 30 most frequent words on 61 sources. Pearson correlation coefficient was selected as the core tool where cluster analysis was based. This cluster suggest that 'entrepreneurship' and 'entrepreneurial' terms are located closed to 'entrepreneur', 'business' and 'development' terms, showing that they are closely linked to each other. In the other branch of this dendrogram, terms such as 'gender', 'women', 'role' and 'students' are closely linked since they are located next to each other. On the other hand, this cluster suggest that 'entrepreneurship' and 'entrepreneurial' were written about very differently than 'role', 'gender' and 'women'. Thereby, cluster analysis provides a useful alternative to the complexity of interpreting multidimensional scaling graphs as it presents data in clearly defined clusters in two-dimensional space, rendering a quick and easy visual tool for interpretation.



Figure 5. Cluster analysis - dendrogram using Pearson correlation coefficient

How to do in NVivo10? Query -> Frequent Words -> fill in the form -> Run -> Select Cluster Analysis -> Choose Dendrogram Figure 6 illustrate two circle graphs of 30 most frequent word used among 61 selected sources. The left graph shows the results applying a low level of similarity between terms. As it can be expected, if you increase the level of similarity between them, then one term has more chances to be similar to other terms (see graph on the right).



Figure 6. Cluster analysis – circle graph of 30 most frequent words

How to do in NVivo10? Query -> Frequent Words -> fill in the form -> Run -> Select Cluster Analysis -> Choose Circle Graph

3. CONCLUSION

Concerning the amount of information that is available in contemporary times, handling the literature review is not an easy job to do, especially in academic field. Showing how to analyse and to write the literature review using NVivo computer software package is the aim of this paper.

Using NVivo during the process of analysing the literature in a specific field might help you to deal much easily with the writing process of the literature review. This paper has illustrated how to generate some basic outputs of this software on a sample of 61 sources from Web of Science and Scopus databases concerning gender role on entrepreneurial intention.

Scholars may use it to analyse information and to provoke ideas on how to proceed with the writing process of the literature. NVivo is considered as the best tool for qualitative research, in particular for thematic analysis and grounded theory.

In this paper are shown only some tools and outputs that NVivo version 10 provides. Nevertheless, more advanced tools are available, which can help you on the analysing process of the literature review, including your notes, comments and classification you might do during the literature review in a specific field. For instance, last version of NVivo 11 offers some extra tools compare to its later versions.

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LITERATURE

- 1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T
- 2. Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo*. SAGE Pubications.
- Capterra. (n.d.). Best Qualitative Data Analysis Software, Reviews of the Most Popular Systems. Retrieved May 20, 2018, from https://www.capterra.com/qualitative-dataanalysis-software/?utf8=✓ &users=&sort_options=Most+Reviews
- 4. Ethridge, D. E. (2004). *Research methodology in applied economics : organizing, planning, and conducting economic research.* Blackwell Pub.
- Library La Trobe University. (2015). NVivo for your literature review online tutorial -YouTube. Retrieved May 21, 2018, from https://www.youtube.com/watch?v=6bIX2bpbwI
- 6. Maxwell, J. A. (2013). *Qualitative research design : an interactive approach*. SAGE Publications.
- 7. Mendeley. (n.d.). Access your research, anywhere. Retrieved May 21, 2018, from https://www.mendeley.com/homepage3/?switchedFrom=
- 8. QSR. (n.d.). NVivo qualitative data analysis software. Retrieved May 20, 2018, from https://www.qsrinternational.com/nvivo/home
- 9. Richards, L., & Morse, J. M. (2013). *Readme first for a user's guide to qualitative methods*. Sage.
- Suciu, A., Cotoros, D., & Repanovici, A. (2017). A critical approach to the global research output employing mapping and scientometric methods regarding physical work condition and long term inclinometry among dentists. In *International Scientific Conference "Western Balkan Information Literacy" Generation Z: Fake News and Information Literacy, the New Horizon* (pp. 47–54). Bihac: Limerick Institute of Technology.

DIGITAL DIVIDE: WHERE DO THE WOMEN STAND IN INDIA?

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ABSTRACT

The studies in recent years clearly show that women in the developing countries have purposely lower technology involvement rates than men. In a country like India, where half of the men of the total population are using mobile phone and fewer than one third of the total women have their own mobile phone. In most of the rural part of India, use of mobile phone is restricted for women due to the variety of reasons including unequal gender relationship. The gap between men and women goes much deeper than ownership of mobile phone or access to internet services and leads to a more concerning issue, i.e. digital gender divide. This paper is an attempt to understand the emerging gender disparities in the universe of Internet and digital literacy especially from a women perspective. In order to reduce the digital divide, we must identify not only the financial and technical constrains but also the larger discourse on the social and cultural obstacles that disappoint women from meaningfully using the internet.

This paper is based on the secondary data and relevant research studies.

KEY WORDS: Digital divide, digital literacy, digital gender divide, ICT, internet, information literacy.

1. INTRODUCTION

Internet access has the ability to drive business development, extend social openings, financial expansion, urban support, activism, music, and expressions of the human experience. The way, advantages of easy and online access to services have reached up to half of the world population today is remarkable and opens the gate for more innovations. On the other hand, fast moving technologies may create further gap between the people, if not managed carefully.

World Economic Forum of 2016 at Durban included the call for a technological advancement to enhance the nations development. In the same year, United Nations declared Internet access as a basic human right, however, more than 55 percent of total world's population do not have the access to internet services. 9 persons out of 10 who are not connected with the internet reside in the developing world.

The government of India has launched Digital India initiative in 2014 with an aim to enhance the country's physical digital infrastructure and shifting government services to an online platform. Digital India move expects broadband to reach up to 250,000 villages; Wi-

Fimay extend up to 250,000 schools, and a push would be made towards both universal phone connectivity and universal digital literacy until 2020.

2. DIGITAL DIVIDE IN INDIA

Digital divide is relatively a new term and combination of digital and divide. Social divisions and marginalization are being looked from a digital perspective therefore digital divide is an economic and social disparity with regard to access to, use of, or influence of information and communication technologies (ICT).

The gap is between individuals, households, businesses, and geographic areas at distinct socioeconomic levels, with regard to both their opportunities to access ICTs and to their use of the internet for a wide variety of activities (OECD, 2001).

Kularski (2015,p. 5) expressed that "the digital divide is composed of a skill gap and a gap of physical access to Information Technology (IT) and the two gaps often contribute to each other in circular causation. Without access to technology, it is difficult to develop technical skill and it is redundant to have access to technology without first having the skill to utilize it".

According to "World Economic Forum" (2016) India is at 96th position on Network Readiness Index. This mean, only 15 of 100 Indians have access to the internet. The mobile broadband subscription in India remains a matter of concern because the subscription rate is 5.5 of each 100 individuals. The reason behind the non-adaptation of technology is lack of awareness, lack of infrastructure and digital skills is also a hurdle at individual level to use these services. Similarly "International Telecommunication Unit (ITU)" (2016) also demonstrated that India stands at 138th place in ICT Development Index (IDI). IDI is a complex index that combines 11 indicators into one standard extent, which can be used to monitor and relate developments in ICT between countries and over time.

According to the UN's International Telecommunication Union Agency (2016), internet penetration is at 81 percent in developed countries, 40 percent in developing countries and 15 percent in the least developed countries (LDCs). While overall internet access is growing worldwide, it remains considerably higher in developed economies (Chisiza,2017)

Separately from these geographical alterations, there are also gender gaps. Women's access to ICT is controlled by aspects that go beyond disputes of technological infrastructure: socially and culturally constructed gender roles shape and limit the capacity of women and men to participate on equal terms. Women often lack the financial resources, education levels, and equal opportunities to access ICT goods and services. Men are considerably more liable to get to the web than women, prompting to a global digital gender divide in access. According to Census of India 2011, total population of the country is 1,347 million and women population is 48.2 percent of total population. 34percent of the people living in urban areas.

Total internet penetration of India is 34 percent, equal to the urban population but access to the internet might be for a limited time every day. Globally, 4 billion individuals using the internet for an average of 6 hours every day (Fig: 1).



Fig:1 Source: We are Social (Digital in 2018)

3. DIGITAL DIVIDE AND CASE OF WOMEN

The internet infiltration rates are higher for men than for women around the world. As per the World Wide Web Foundation, the worldwide digital gender gap developed from 11 percent in 2013 to 12 percent in 2016. Africa represents the biggest gap at 23 percent, while the Americas constitute the littlest gap, at 2 percent.

The digital divide is thus not purely an interrogation of access to digital technologies but about the capability to make significant use of the access to technology. The 2015 report of Web Foundation's Women Rights Online said that "women are 50percent less likely to be online than men, once they are online also less likely to use the internet to access important information related to their rights and empowerment. The report further said that this gap is the result of lack of education, minimal digital skills, age as older women in developing countries are less likely to be online than men".

According to "UN Broad Band Commission Report" (2017, P-15), "expanding women's access to ICT can enhance the reach of policymakers to a far broader population base, as women are more likely to take time to inform others and reflect such knowledge in family and community planning. By the same token, increased access will also give women a distinct voice in development planning and allow them to be active participants in having gender-aware policies and programs at the local and national levels".

The Census of India 2011 indicates that the female literacy rate was 65.5 percent, compared to 80 percent for men. Nearly 23 percent of girls have school dropouts before they reach to the puberty. So less participation of girls/women in education, means lacking digital literacy at some stage. if we analyze the case further, there are two major factors responsible for digital divide in India. The first one is rural-urban divide and second is gender divide.

Around half of the urban families have Internet access, far in abundance of their companions in the farmland, 47 percent of wealthier family at least one family member has internet connection have no less than one part with web get to, contrasted with a small 4 percent of poor ones. In urban India, gender-based digital segregation is less evident as connectivity and literacy rates are comparatively higher and social norms are less rigid.

4. DIGITAL DIVIDE: STATISTICS

According to an Italy based organization called ,We are Social's annual report("Digital in 2018") the global internet users have crossed the 4 billion mark which is half of the total world population. However, ¼ of a billion new users came first time online in the last 12 months of 2017. The global average female literacy rate is 80percent in comparison to global average male literacy rate is 88percent. A total of 4.021billion people are using internet which is an average of 53 percent of the global population, however, the national internet penetration of India is 34 percent just behind to Ghana with 35 percent and UAE on top with 99 percent internet penetration. The no of internet users in India was unchanged in 2017 and it was same as of 2016 but there was an increase in the number of social media users by 31percent of total internet per day via any device whereas spent 2hours 26 minutes on using social media. In the list of the number of users using Facebook, India is on top with 25 million users which are 12percent of global Facebook users population. If we see the women's participation only 44percent women are Facebook users and rest 56percent are male Facebook users (Fig:2).



Fig:2 Source: We are Social (Digital in 2018)

In India, these figures are more alarming because only 23percent women are active on Facebook whereas 77percent male is monthly active Facebook users same as of Pakistan which is the greatest skew in the gender balance of using social media. The global digital report further said that 56percent population have bank account but only 4 percent people are using debit or credit card, if we segregate with gender only 2percent women carrying credit card and 7percent men however only 0.4 percent women are using their credit card for making online payment in comparison to 2percent men.(fig:3)



Fig:3 Source: "We are Socia"(Digital in 2018)

Internet becomes the basic requirement of regular daily existence for the greater part of us. We're utilizing that network in relatively every part of our lives, regardless of whether it's traveling, playing recreations, online shopping, following our wellbeing, or notwithstanding discovering love but on contrary in India 66percent of the total population have not internet access and the worst is women as only 29percent internet users are women .

The global trend is also not very exciting as Luxton (2016) wrote in her paper, appeared on the portal of World Economic Forum, that "Today, women make up less than 40 percent of the total workforce in some of the top tech companies, and when considering only tech-related roles they are even more under-represented. Apple has the highest proportion of female employees in tech roles; however, this figure is still the only 20percent. At Twitter, only 10percent of tech positions are filled by women (Fig:4)".



Fig:4 Source: Statista

5. CONCLUSION: BRIDGING THE GAP

Over the last two decades, women's enrolment in technical education has gone up from 5 percent to 45 percent. New opportunities are being created especially after 2007 in IT sectors. The new ventures, startups, and technological advancements have helped improving access to internet services with advanced broadband infrastructure but women continue to be reduced to the jobs which need only basic competence. Men enjoy the experts and decision making positions in the job market.

In many parts of rural India, the potential of technologies are still underutilized because of the prevailing gender divide, traditional belief, and value systems. The confined mobility of women to access health and education services further make the situation concerning (Hindustan Times 29 May 2017). The government should focus on skills training on digital literacy to equip women of the nation. The digital empowerment will lead not only in reducing existing social and cultural biases but also making the economy a stronger one. Women play a decisive role in supporting socioeconomic advancement, for themselves, their families and their countries and Information and communication technologies (ICTs) can act as a catalyst to catch up the speed of the fast-growing changes. The economic empowerment and familiarity with technologies also result in easy access to higher education, job training, and access to health care and realization of legal rights with democratic participation. Investing in women, accelerating broadband and ICT provisions to women and girls would lead to improved gender equality and empowerment for both men and women.

6. LITERATURE

- 1. https://www.weforum.org/agenda/2016/04/where-are-the-women-in-computing
- 2. https://thewire.in/economy/digital-india-women-technology
- 3. https://www.ogilvy.com/topics/topics-ogilvy-influencers/women-key-to-the-closing-digital-divide-in-india/

- 4. https://www.huffingtonpost.co.za/matebe-chisiza/no-woman-left-behind-the-genderdigital-divide_a_22079285
- 5. https://webfoundation.org/2018/05/measuring-the-digital-divide-why-we-should-be-using-a-women-centered-analysis/
- 6. http://www.broadbandcommission.org/Documents/publications/WorkingGroupDigitalG enderDivide-report2017.pdf
- 7. ITU (2016a), ICT Facts and Figures, ITU, Geneva.
- 8. ITU (2016b), Measuring the Information Society 2016, ITU, Geneva.
- 9. OECD (2001), Understanding the Digital Divide, OECD, Paris.
- 10. https://scroll.in/article/836687/domestic-chores-the-largest-significant-contributor-to-gender-gap-in-secondary-education-study
- 11. https://www.hindustantimes.com/opinion/locating-gender-in-the-digital-divide/story-zt10VjNAwnOqcChjkYCLfN.html
- 12. Kularski, C.; Moller, S.The digital divide as a continuation of traditional systems of inequality. Sociology 2012, 5151, 1–23.

REGULATORY LEGAL BASIS OF INFORMATION SECURITY IN THE REPUBLIC OF KAZAKHSTAN AND ITS PROVISION IN THE FIELD OF INFORMATIZATION

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ABSTRACT

The advancement of information technology (IT) during the last few decades has revolutionized the world. The wide-scale adoption of IT in daily lives has also resulted in significant security challenges for the whole world. Technologies are usually developed with the main purpose of improving the quality of human lives, however, the criminals try to exploit these technologies in order to misuse them for disrupting human lives. Recent advances in utilizing IT for beneficial activities as well as its misuse by criminals have highlighted the need to ensure information security to protect critical systems both at the organizational level and the governmental level. At the organizational level, advanced information security solutions and controls could be applied to protect the organization from any criminal activity. At the governmental level, regulatory legal acts (RLAs) have to be developed to regulate the security procedures for IT assets. There is an ongoing trend among the developed and developing countries to develop RLAs for ensuring information security of national critical infrastructure while keeping into account the dynamic IT threat landscape. The Republic of Kazakhstan has introduced a set of measures at the legislative level to ensure IT asset security across the country. This research paper highlights the IT security advancements at the legislative level within the country.

Keywords: information technology, IT asset security, cyber safety, IT threat landscape, regulatory legal acts.

1. INTRODUCTION

In the modern world, information is an important strategic national resource. Technological progress in the IT industry has accelerated the development of tools and methods for ensuring information security at various levels: personal, organizational, state, national and international level. The informatization of personal, organizational, state and national assets as well as the associated information has attracted special attention by all the relevant stakeholders to apply appropriate controls for ensuring information security. The inter-linked informatization aspects have necessitated an integrated regulatory legal framework for ensuring the information security of all segments of a country's national assets, state and social information.

The creation of a regulatory framework involves the development of new or supplementary existing normative legal documents which together with mechanisms for monitoring their implementation, will lead to the creation of an effective system for ensuring information security. The Republic of Kazakhstan has introduced a regulatory legal framework to provide a guideline for ensuring asset security within the country. The regulatory legal framework within the sphere of information security is aimed at creating a base in the Republic of Kazakhstan to regulate and standardize the behavior of all participants involved in the information relations process. The framework further helps in determining the violation of defined information security procedures through a set of measures.

2. RESEARCH PART

2.1 Brief overview of the regulatory legal framework for ensuring information security in the Republic of Kazakhstan

According to the Law of the Republic of Kazakhstan (LRK) "On National Security", Achieving security of the nation's information space ensures sustainable development and information independence of the country.

Recently, necessary measures have been taken in Kazakhstan to effectively ensure information security and protection of information resources at the legislative level. Further attempts on an ongoing basis for improving the information security system of the state as a whole are also taking place.

In this regard, from time to time, key regulatory legislations, such as the Law of the Republic of Kazakhstan "On Informatization", the Law of the Republic of Kazakhstan "On Legal Acts" and others have been introduced and updated.

Today in Kazakhstan there are a number of RLAs directly or indirectly related to the issue of information security (Picture 1).



Picture 1: Regulatory legal acts concerning the information security sphere

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2.2 Ensuring information security in the sphere of informatization

Information security in the field of informatization is regulated by the Law of the Republic of Kazakhstan "On Informatization" dated November 24, 2015 No. 418-V. [3]. This law replaced an outdated analogue with an identical name dated November 11, 2007 and "regulates public relations in the field of informatization arising in the territory of the Republic of Kazakhstan between state bodies, individuals and legal entities in the creation, development and operation of information facilities, as well as with state support development of information and communication technologies" [1].

According to the LRK "On Informatization", information security in the field of information is a state of protection of electronic information resources, information systems and information and communication infrastructure from external and internal threats [2].

In its turn, from the same law of the Republic of Kazakhstan it follows that informatization means an organizational, socio-economic, scientific and/or technical process aimed at automating the activities of information subjects. The main tasks of information security in public administration are:

- formation, development and protection of State's electronic information resources, information
- systems and telecommunications networks while ensuring their interaction in a single information space;
- monitoring of information security of state bodies, individuals and legal entities;
- prevention and prompt response to incidents of information security, including emergency situations of social, natural and man-made types, the introduction of an emergency or martial law;
- Achievement of these goals is ensured by the following activities:

- attestation of the information system for compliance with information security requirements (hereinafter – the Attestation);

- tests of the information system for compliance with information security requirements (hereinafter – the Tests).

The Attestation is mandatory for information systems, information and communication platforms of "e-government", Internet resources of state bodies, as well as for any information systems integrated with information systems of state bodies.

Tests are mandatory to ensure that the digital assets have compliance with the defined regulatory or organizational standards. Digital assets that require testing include service software products, information and communication platforms of "e-government", Internet resources and information systems of state bodies, information systems classified as critical objects of information and communication infrastructures, non-state information systems integrated with government information systems and the information systems intended for the formation of state electronic information resources.

The testing measures are mandatory and are conducted in the following cases: when creating a state body information system; when integrating the non-governmental information system with the state body information system; in the development of the information system of a state body or a non-state information system integrated with the state body information system.

The relationship of testing measures ensuring

- information security to be compliant with the regulatory legal acts, their by-laws, as well as the state standards of the Republic of Kazakhstan.

2.3 The Attestation

The Attestation of information systems for compliance with the requirements of information security involves organizational and technical measures which help to determine the state of security for the objects of the attestation, as well as their compliance with information security requirements.

The Attestation is carried out by the authorized body in the field of informatization, which is the Ministry of Information and Communications of the Republic of Kazakhstan (MIC RK). The Attestation includes conducting the Attestation examination, which includes complex organizational and technical measures aimed at studying, analyzing, evaluating the technical documentation of the appraisal facility and monitoring the conditions of organizational work aimed at fulfilling information security requirements. Conducting the Attestation examination is a state monopoly and is carried out by the authorized body – Republican State Enterprise "State Technical Service" Ministry of Information and Communications of the Republic of Kazakhstan. The Attestation of information systems for compliance with information security requirements is carried out in accordance with the following RLAs of the Republic of Kazakhstan:

- Law of the Republic of Kazakhstan "On Informatization";

- Rules for the attestation of the information system, the information and communication platform of "e-government", the Internet resource of the state body for compliance with information security requirements [4].;

- Methodology for carrying out the attestation examination of the information system, the information and communication platform of "e-government", the Internet resource of the state body for compliance with information security requirements [5]; Unified requirements in the field of information and communication technologies and information security (UR)[6]. In addition to regulatory legal acts there are several state standards, which are used in the Attestation of information systems for compliance with information security requirements: ST RK ISO / IEC 27002-2009 Methods of providing protection. A set of rules for the management of information protection (hereinafter – ST RK ISO / IEC 27002-2009); ST RK ISO / IEC 27001-2008 Information technology. Methods and means of ensuring security.

- Information security management systems. Requirements (hereinafter – ST RK ISO / IEC 27001-2008) [7].

- ST RK GOST R 50739-2006 Means of computer facilities. Protection against unauthorized access to information. General technical requirements (hereinafter – ST RK GOST R 50739-2006) [8].

The structure of the Attestation examination, includes [9]: preliminary study of the structure of the attestation object; the study, analysis and evaluation of technical documentation (TD) on information security; examination of the status of organization of work on the

implementation of the UR, standards ST RK ISO / IEC 27001-2008 and ST RK ISO / IEC 27002-2009, ST RK GOST R 50739-95-2006, technical documentation on the information security, including instrumental inspection of the attestation object.

2.4 Preliminary study of the structure of the attestation object

Preliminary study of the structure of the attestation object is carried out with the purpose of determining the features of the performance of the attestation object and obtaining general information about the hardware and software, the local and corporate network, the technologies and procedures for protecting information used in the attested facility.

The process of preliminary study of the structure includes acquaintance with the following technical documentation: Technical assignment for the creation of the attestation object; General functional and local scheme of the attestation object; A list of software and hardware used in the attestation object; Contract for the use of information and communication services (in the event that the appraiser uses information and communication services).

2.5 The study, analysis and evaluation of technical documentation (TD) on information security

The following documents of the organization are subject to analysis and evaluation:

1) Information Security Policy (hereinafter - the Policy); 2) Rules for identification, classification and marking of assets related to information processing facilities (hereinafter the Identification Rules); 3) Methodology for assessing information security risks (hereinafter – the Risk Assessment Methodology); 4) Rules for ensuring the continuous operation of assets related to information processing facilities (hereinafter - the Rules for ensuring continuous work); 5) Rules of inventorying and certification of computer facilities, telecommunications equipment and software (hereinafter - the Inventory rules); 6) Rules for conducting internal audit of information security (hereinafter - the Internal Audit Rules); 7) Rules for the use of cryptographic means of information protection (hereinafter – the Rules for the use of cryptographic means); 8) The Rules for the delineation of access rights to electronic resources (hereinafter – the Rules for the delineation of access); 9) The rules for using the Internet and e-mail; 10) The Rules for the organization of the authentication procedure; 11) The Rules for the organization of anti-virus control; 2) The Rules for the use of mobile devices and storage media (hereinafter – the Rules for the use of mobile devices); 13) The Rules for the organization of physical protection of information processing facilities and a safe environment for the operation of information resources (hereinafter - the Rules for the organization of physical protection); 14) Administrator's Guide for tracking the attestation object (hereinafter - Administrator's Guide); 15) Regulations for the backup and recovery of information; 16) Instruction on the procedure for users to respond to incidents of information security and in emergency (crisis) situations (hereinafter - the Instruction on non-emergency situations).

2.6 Examination of the status of organization of work on the implementation of the UR, standards ST RK ISO / IEC 27001-2008 and ST RK ISO / IEC 27002-2009, ST RK GOST R 50739-95-2006, technical documentation on the information security, including instrumental inspection of the attestation object

Examination of the status of the organization of work on compliance with the requirements of UR, standards ST RK ISO / IEC 27001-2008, ST RK ISO / IEC 27002-2009, ST RK GOST R 50739-95-2006, information security technical documentation, including instrumental inspection of the attestation object is conducted with purpose of examination and analysis of following points [10]. The provisions of the Policy [11]: Processes for managing information security; Organization of asset management; Security management related to personnel; Physical protection of equipment and environmental safety; Ensuring proper and safe functioning of information processing facilities; Organization of access control to information resources; Development, implementation and servicing of attestation object; Organization of incident management in the field of information security; Business continuity management; Degree of compliance with legal requirements; System of protection against unauthorized access to information in accordance with ST RK GOST R 50739-95-2006.

3. THE TESTS

The Tests of the information system for compliance with information security requirements include technical measures for evaluating the objects of information security requirements testing

These technical measures are conducted in accordance with the following regulatory legal acts of the Republic of Kazakhstan:

- Law of the Republic of Kazakhstan "On Informatization";
- The methodology and rules for conducting the tests of the service software product, the information and communication platform of "e-government", the Internet resource of the state body and the information system for compliance with information security requirements (*The methodology and rules for conducting the tests of the service software product, the inforarmation and communication platform of "e-government", the Internet resource of the state body and the information system for compliance with information security, 2016*).

The tests are state monopoly and are carried out by the authorized body - Republican State Enterprise "State Technical Service" Ministry of Information and Communications of the Republic of Kazakhstan.

The structure of the Tests activities includes:

- Analysis of source codes;
- Testing of information security functions;
- Load test;
- Survey of telecommunications network and server equipment.

4. CONCLUSION

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The analysis of the legislative basis for ensuring information security in the Republic of Kazakhstan clearly demonstrates the rapid work of authorized bodies and specialists in this field in recent years.

In Kazakhstan there is a package of regulative legal acts aimed at achieving the following goals:

- Implementation of constitutional rights and freedoms of citizens of the Republic of Kazakhstan in the field of information activities;
- Improvement and protection of the domestic information infrastructure, integration of Kazakhstan into the global information space;
- Counteraction to the threat of unleashing confrontation in the information sphere.

LRK "On Informatization" represents a tool to ensure information security in the field of information through a number of activities that control key aspects of ensuring information security:

- When creating or developing information systems;
- Maintenance of technical documentation of the organization to provide information security;
- Application of a set of technical measures to provide information security.

REFRENCES:

- [1] Law of the Republic of Kazakhstan "On national security". (17 January 2012 г.). *Kazakhstanskaya pravda*, стр. 19-20.
- [2] Law of the Republic of Kazakhstan "On informatization". (26 November 2015 г.). *Egemen Kazakhstan*.
- [3] Law of the Republic of Kazakhstan "On Informatization" (from November 24, 2015, No. 418-V) // Information and legal system of regulatory legal acts of the Republic of Kazakhstan "Adilet".
- [4] Rule s for attestation of the information system, the information and communication platform of "e-goverment", the internet resource of the state body for compliance with information security requirements. (4 June 2016 г.). *Egemen Kazakhstan*.
- [5] Methodology for carrying out the attestation examinination of the information system, the information and communication platform of "e-government", the Internet resource of the state body for compliance with information security requirements. (04 March 2016 Γ.). Legal information system of regulatory legal acts "Adilet".
- [6] ST RK ISO / IEC 27002-2009 Methods of providing protiection. A set of rules for the management of information protection. (17 November 2009 г.). *Information system "Paragraph"*.
- [7] ST RK ISO / IEC 27001-2008 Information techbnology. Methods and means of ensuring security. Information security management system. Requirements. (25 February 2008 Γ.). *Information system "Paragraph"*.
- [8] ST RK GOST R 50739-2006 Means of computer facilities. Protection against unauthorized access to information. General technocal requirements. (11 December 2006 г.). Information security "Paragraph".

- [9] Rule s for attestation of the information system, the information and communication platform of "e-goverment", the internet resource of the state body for compliance with information security requirements. (4 June 2016 г.). Egemen Kazakhstan.
- [10] The methodology and rules for conducting the tests of the service software product, the inforarmation and communication platform of "e-government", the Internet resource of the state body and the information system for compliance with information security. (15 September 2016 г.). *Kazakhstanskaya pravda*.
- [11] Unified requirements in the field of information and communication technologies and information security. (29 December 2016 Γ.). Kazakhstanskaya pravda.

ROLE OF ICTs AND E-LEARNING IN AGRICULTURAL DEVELOPMENT

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ABSTRACT

We consider the problem of using ICT and e-learning for agricultural development. Recently this topic is very relevant for us due to the fact that our university is chosen as the center of digitalization of agriculture in Kazakhstan within the framework of the National program "Strategy 2050", which includes elements of the Industry 4.0. To achieve main goal, it is important to increase the information literacy of agricultural specialists.

Key words: Information and communication technologies, e-learning, information literacy

1. INTRODUCTION

Saken Seifullin Kazakh Agrotechnical University with its systematic transformation is able to become an important tool in solving the problems of technology transfer in agriculture. We proved this out [1]. To continue these reforms, it is necessary to increase level of information literacy of teachers and farmers.

With advances in information and communication technology (ICT), Web based education has become an increasingly popular instructional mode all over the world.

Many organizations; institutes; universities; schools and corporations are investing substantial amounts of time and money in developing online alternatives like e-learning to traditional types of education and training systems. Electronic learning (e-learning) refers to communication and learning activities through computers and networks.

E-learning in agriculture related fields is still in the early phases of adoption. The Ministry of Agriculture in Iran like many other organization and educational centers have considered the necessity of e-learning in agricultural extension network for training extension agents. It is dramatically improving how agricultural education is done.

The latest trends in the development of information and communication technologies, the place and role of these technologies are analyzed. Methods and means of increasing the efficiency of ICT use for enterprises of the agricultural sector of Kazakhstan are proposed.

2. INFORMATION LITERACY

In this paper information literacy is understood as "the knowledge and skills required to correctly identify the information necessary to perform a specific task or solve a problem; effective information retrieval; its organization and reorganization; interpretation and analysis of information found and extracted (for example, after downloading from the Internet); assessing the accuracy and reliability of information, including compliance with ethical standards and rules for the use of information received; if it is necessary to transmit and present the results of analysis and interpretation to others; the subsequent application of

information for the implementation of certain actions and the achievement of certain results" [2].

In Kazakhstan, learning to work with information has a long history; accumulated rich traditions and experience of schools, universities and libraries in the preparation of citizens for life in the information society; well known in Kazakhstan and international experience. At the same time, the concept of information culture has spread in Kazakhstan.

Appearing in the field of library and book business, the concept of information culture, as it developed, absorbed knowledge from a number of sciences: information theory, cybernetics, computer science, semiotics, documentary, philosophy, logic, cultural studies, etc.

At present, the information culture is increasingly being treated as a special phenomenon of the information society. Depending on the object of consideration, the information culture of the society, the information culture of certain categories of consumers of information (for example, children or lawyers) and the information culture of the individual began to be singled out.

In Kazakhstan, more than 130 nationalities and nationalities live in friendship and harmony. Information culture in a broad sense is a set of principles and mechanisms that ensure the interaction of ethnic and national cultures, their combination in the common experience of mankind; in the narrow sense of the word - the optimal ways of handling information and presenting it to the consumer for solving theoretical and practical problems; mechanisms for improving the technical means of production, storage and transmission of information; the development of a system of training, the preparation of a person for the effective use of information.

The personal information culture is one of the components of the general human culture, the aggregate of the information worldview and the system of knowledge and skills that provide targeted independent activity for the optimal satisfaction of individual information needs using both traditional and new information technologies.

The information chain of education (production) of knowledge includes four stages: the creation, packaging, distribution and use of information. Information literacy encompasses the skills and qualifications required when using this information and relevant indicators are required to assess them. Information literacy is an integral component of creating knowledge in the cycle of its production. This cycle includes authors, inventors, researchers and other categories of workers who produce new knowledge in the form of articles, books, texts, patents. Knowledge in these forms publishers stacked either in the form of books, magazines, newspapers, etc. Carriers produced and processed information, in turn, generate and disseminate bookstores, libraries and other information providers to meet the needs of researchers, teachers, students, businessmen and other sectors of society.

All existing standards are based on the fact that the achievement of information literacy is a continuous process (continuum) both from the position of the means or methods required at different stages and levels of human learning, and in the sense that the tools used are used integrally, rather than as strictly linear sequential processes. So, in the course of getting an education, the development of information literacy starts at the earliest stage in the school

and continues with higher education and subsequent lifelong learning. In more developed countries, the development of information literacy is combined with the acquisition of skills in the use of ICT, because at present digital technologies and electronic databases are the primary source of information. Thus, the cognitive and technical skills required in the process of access to information and its use is combined.

Saken Seifullin Kazakh Agrotechnical University (KATU) joined the universities participating in the Erasmus+ in 2016 as a part of project "Developing Trans-regional information literacy for lifelong learning and the knowledge economy (DIREKT)". The following works were carried out: two modules DIREKT Information Literacy and Academic Writing have been created; Information literacy issues are included in the syllabi on the discipline "Information and Communication Technologies" for students of all specialties; work on the development of modules began after the training of the ESP; the KATU team developed a curriculum for the training of librarians in English (ESP) [3].

3. ROLE OF ICTs AND E-LEARNING IN AGRICULTURAL DEVELOPMENT

Agriculture is one of the key sectors of the Kazakh economy. The rich soil and climate provide ideal conditions for growing wheat, barley, rice, corn, millet and buckwheat. In 2012, the total crop area reached 21.3 million ha. Corn and beans will be sown on 16.5 million ha while oilseed will occupy 1.7 million ha.

For a country with a long nomadic history, it is not surprising that stockbreeding is the traditional and dominant agricultural sector. No less than three quarters of all agricultural land is used for grazing. Sheep breeding is predominant, while cattle breeding and the raising of pigs, horses and camels are also well developed. Animal husbandry typically accounts for about 45-50 percent of the production value in agriculture in Kazakhstan. Primary meat products include beef, veal, chicken, horse, lamb, pork and rabbit.

The livestock sector is gradually growing. The Government provides subsidized loans to agricultural enterprises, subsidies for machinery upgrades and construction, state-funding of organizations developing veterinary and phytosanitary sectors, the provision of subsidies for industrial energy costs. It also waved import duties on farm equipment, raw materials and spare parts, and exemption from corporate income and property taxes.

Recently Kazakhstan is planning a comprehensive application of information and communication technologies (ICT) in the field of agriculture. This means using for the development of agriculture all the advantages of modern advances in information technology, including computers and networks, the Internet of things, Cloud computing, 3S technologies (remote survey, geographic information systems, GPS), as well as wireless technology.

The use of these technologies will provide farmers with more complete information. In livestock production efficiency directly depends on the competent use of technological processes. In a modern information society, any farmer can enter the global Internet from anywhere in the area using powerful wireless communication devices.

The innovative development of the agro-industrial complex in Kazakhstan is slowing down, including because of the low level of technological equipment, which is largely determined by the technical and technological level of industry and the lack of skilled workers.

According to expert estimates, the general level of informatization of agro-industrial enterprises in modern conditions seems insufficient, which is explained by the following reasons: 1) low efficiency of economic entities in conditions of insufficient and state influence on the processes of formation of the material and technical base and the organizational and economic situation of systemic information; 2) lack of a developed infrastructure for informatization of the domestic agro-industrial complex; 3) low interest of business entities in the development of information systems and the use of its products due to insufficient stimulation of products of information technology systems.

This is confirmed by the degree of use of information technology, which largely depends on the size of enterprises.

The conduct of modern agriculture in a developed information society requires the constant receipt of information from various external sources (via the global Internet network) from any point of the terrain at a convenient time. For example, the constant availability of weather forecast data can be available to farmers throughout the day. This allows more effective use of chemical plant protection products, and also reduces the risk of environmental pollution. There are developments of information systems to prevent farmers from the appearance of pests and plant diseases.

Expansion of information databases is an important but inadequate condition for effective use in farms. The initial information should be convenient for the assessment of biological and physical systems with the purpose of generating useful knowledge about the current state of the farms, as well as predicting the results when implementing various scenarios. The accumulated knowledge in agricultural research over many years should be applied to obtain practically useful information by processing databases. This means that IT is an indispensable source for the implementation of research and development. In our university

To provide farmers with up-to-date and reliable information, a knowledge dissemination center was established in KATU. The main purpose of its activities is the introduction of advanced innovation in agriculture, distribution and transfers of knowledge and training professionals in the practical application on advanced technologies. The main services of the Office "Extension-KATU" are:

1. Scientific support and advice to agribusiness entities in the implementation of modern technologies (on-site in the farm, distant consultation);

2. Distribution of information and educational materials (videos, printed materials, web-site, social networks);

3. Training programs on the use of advanced technology and experience (focus on the practical activities, basic and special courses).

Services are provided by highly qualified specialists with scientific and practical work experience in agriculture.

4. CONCLUSION

Information literacy is developing well in Kazakhstan. Particular attention is paid to training teachers to draw their attention to the importance of IL in the teaching process, given the opportunity to integrate the IL in their training. Training modules are being developed, aimed at creating information literacy among students and teachers, and developing skills and skills in academic writing.

Information literacy is a concept without geographical boundaries in the library business. Academic librarians work on developing students' abilities to efficiently search, evaluate, use and create information. The approach to learning these lifelong, cumulative skills can be projected in countless ways in our global environment.

Internet technologies are actively developing, expanding access to information. It is especially important for farmers to obtain reliable information. Therefore, in Kazakhstan ICTs and e-learning are actively used, uniform electronic systems are being created that allow full monitoring and analysis of the efficiency of agriculture in the country. This system will combine the subsystems used to register producers of agricultural products (farmers), identify land areas allocated for agricultural work, register and identify animals, their health status and productivity. It will also include the management of applications for financing of agricultural projects, a system for crediting farmers, as well as leasing operations and registration of agricultural machinery.

All these data will be sent online to a single processing center that will promptly identify problem areas in Kazakhstan's agrarian sector and promptly make optimal decisions to improve the efficiency of the country's agriculture.

5. LITERATURE

1. Kurishbayev, A. (2018). Agricultural sector ripe for development. The Astana Times, No 3 14.02.2018.

2. Lau, J. (2006) Guidelines on Information Literacy for Lifelong Learning. https://www.ifla.org/files/assets/information-literacy/publications/ifla-guidelines-en.pdf

3. Murzabekova, G., Tazhibai, L. (2017, November). Information literacy in Kazakhstan. Alley of science, No. 15(1).

RESEARCH REGARDING THE ACHIEVEMENT OF GDPR COMPLIANCE BY IMPLEMENTING ISO 27001

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ABSTRACT

This paper analyses the possibility of achieving GDPR compliance by implementing ISO 27001. A comparison was made between the legal content of the GDPR Regulation and the ISO 27001 specific controls, aiming at correlating these elements in the process of implementing an information security management system in an organization.

Key words: GDPR, ISO 27001, data security, GDPR compliance

1. INTRODUCTION

Starting May 2018, Regulation (EU) 2016/679 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, known as GDPR, has become mandatory. The new European regulation introduces a set of rules establishing an obligation for organizations to implement controls to protect personal data.

The main provisions of the GDPR are:

- a. Establishing a legal basis for the control and processing of personal data
- b. The existence of a legitimate purpose and the justification of an interest in the collection and processing of personal data. At the same time, entities must take steps to minimize the amount of processed personal data
- c. Documenting all data collection, processing and storage activities
- d. Assessing the risks to the rights and freedoms of persons concerned by procedures
- e. Organizational and technical measures to protect data, as well as designation of a data protection officer
- f. Updating inaccurate personal data,
- g. Verification of data transfer outside the European Union.

The entity owning personal data must be able, at any time, to demonstrate the compliance of the practices with the GDPR provisions, and in the event of a breach of the security rules, it has the obligation to notify the responsible authority of the security incident.

Implementation of the Regulation on the Protection of Individuals with regard to the Processing of Personal Data and on Free Movement is accomplished by fulfilling each measure provided by this document within the organization.

Even if the European Regulation was adopted in 2016 and became mandatory only in 2018, organizations that store data were concerned to ensure their protection long before. The main way was to implement the ISO 27001 standard.

There is a whole family of international standards dedicated to information security management, a family called generic ISO / IEC 27000, which has the role of helping organizations maintain information security.

ISO 27001 is the international standard of best practice for information security and covers the three essential aspects of a comprehensive information security regime: people, processes and technology. The standard specifies the requirements for establishing, implementing, operating, monitoring, reviewing, maintaining and improving an information security management system, documented in the context of the organization's general business risks. This standard specifies the requirements for the implementation of security controls personalized to the needs of organizations. The ISO / IEC 27001 standard is designed to ensure the selection of appropriate security controls that protect information and provide confidence to stakeholders.

The version behind the current standard was BS 7799 and was published in 1995 by the UK Department of Commerce and Industry (DTI). Since then, it has suffered several iterations until it became a recognized industry standard. The current version was created by the International Organization for Standardization (ISO) together with the International Electrotechnical Commission (IEC) in 2013. Essentially, it is a specification for an Information Security Management System to help organizations of any size, type or nature business to manage people, processes and technology.

2. GDPR AND ISO 27001

Implementing an Information Security Management System (ISMS) allows organizations that process personal data to ensure that the risks to which personal data may be subject are periodically reviewed, updated and improved. An ISMS is an optimal risk management framework for all assets and information. For most security requirements, reporting of ISO27001 controls to GDPR items can be performed. In other cases, controls may only partially meet GDPR requirements and compliance can be achieved by additional measures. Even if the legal content of GDPR cannot be satisfied by ISO controls, the main objectives do not differ radically.

According to GDPR, personal data is considered critical information that organizations that store them have to protect. The ISO / IEC 27001 standard provides the means to ensure data protection, as there are many points where the standard can help to comply with this regulation. The most relevant common points are: risk assessment, compliance, asset management, design confidentiality, or relationships with suppliers.

Of course, there are GDPR requirements that are not directly covered by the ISO / IEC 27001 standard, such as interacting with individuals whose personal data are owned or processed by the organization. Thus, provisions on the right to information, the right to delete data and the data transferability are not directly found in ISO 27001. However, if the ISO 27001 standard implementation procedure identifies personal data as a security element, much of the GDPR requirements could be covered.

ISO 27001 includes the requirements for assessing and treating information security risks according to the organization's needs, allowing the design of an individualized implementation process. The requirements specified in the standard are generic and are intended to apply to all organizations, public or private, regardless of their size.

The information security management system seeks to preserve the confidentiality, integrity and availability of information by applying a risk management process.

In addition to ISO 27001, ISO / IEC 27002: 2018 provides guidance on information security management practices, including the choice, implementation and management of control means, taking into account the information security risk.

The parallel between GDPR and ISO 27001 concerns the security of personal data. Both GDPR and ISO 27001 require organizations to implement appropriate security measures to ensure confidentiality, availability, and integrity.

The GDPR provides in Article 32 that the organization operating, and processing data should apply appropriate measures to ensure a level of security appropriate to existing or potential risk. ISO 27001 provides the means to ensure this protection through controls: A.5.1.1 - Information Security Policies, A.6.1.5 - Information Security in Project Management, A.9.4.1 - Restriction of Access to Information, A.10.1.1 - Policy on the use of cryptographic security measures, A.12.3.1 - Back up of information, A.12.7.1 - Security measures for computer systems audit, A.14.1.1 - Analysis and specification of requirements security testing, A.14.2.5 - System security engineering principles, A.14.2.8 - System security testing, A.14.2.9 - Testing at system reception, A.15.2.1 - Monitoring and analysis of supplier services, A.17.1.1- Planning the continuity of information security, A.17.1.2-Implementing the continuity of information security, or A.18.2.1 - Independent information security analysis.

ISO 27001 recommends that data is encrypted to reduce identified risks, and control A.10.1 specifies encryption requirements. The standard also outlines 114 controls that can be used to reduce security risks. Assets requiring encryption are to be identified by the responsible organization following an internal evaluation process.

Thus, ISO 27001 mandates organizations to conduct a thorough assessment of potential threats, vulnerabilities, risks and threats that may endanger the stored or used data and take steps to ensure the confidentiality, availability and integrity of such data. Control A.8.2.1 establishes the obligation to classify information according to legal requirements, critical value and sensitivity to unauthorized disclosure or modification.

The GDPR Regulation also requires an assessment of the risks that may affect personal data. In addition to encryption of personal data, GDPR recommends a range of security actions that are considered suitable for risk, including: the ability to ensure the confidentiality, integrity, availability and resilience of processing systems, the ability to restore availability and access to personal data in in the event of a security incident, as well as a periodic evaluation process for the effectiveness of technical and organizational measures to ensure security.

The implementation procedure for ISO 27001 includes numerous measures in this regard. appropriate measures through organizational and technical controls to support compliance with these requirements.

A9 control aims to verify access, ensuring that only persons with a legitimate right can access the information, depending on the level of access set. In addition, computer systems must be sufficiently resilient to external attacks, this principle being aimed at both physical security and software.
An essential component of any information security management system is the classification of information. Data is a critical resource for an organization, so classification may be necessary. Classification of information ensures correct manipulation and monitoring of sensitive information, especially in public organizations. In this context, most states have adopted legislation aimed at classifying information that constitutes state secrets, introducing additional measures to regulatory standards. ISO 27001 does not describe classification levels, leaving this attribute at the discretion of the organization, depending on the complexity of managed data flows. Data leakage incidents can be avoided by a classification policy based on user awareness and prevention of unauthorized content transfer.

An important role in information security, regardless of their nature, is the identification of applicable legislation and specific requirements. In the ISO 27001 standard, this requirement is included in the management system through control A.18.1.1 which defines as mandatory the existence of a list of relevant legislative, statutory, regulatory and contractual requirements. As almost any organization at European Union level has to comply with GDPR, the Regulation will have to be part of this list.

Regulation (EU) 2016/679 on the protection of individuals with regard to the processing of personal data and on the free movement of such data obliges organizations to notify the competent material and territorial authorities, within 72 hours, of any security incident involving personal data. As far as ISO 27001 is concerned, we find control A.16.1 on incident management and information security improvements that will ensure effective management of information security incidents, including communication of incidents. At the same time, control A.6.1.3 - Contact with authorities is relevant.

In the event that a security incident occurs, in addition to the notification of the component authorities, the organization has the obligation to notify the data subjects if the loss of data poses a high risk to their rights and freedom.

Incident management is an essential process for the efficiency of any operation within the organization, and ISO 27001, by control A.13, attaches great importance to this aspect. Incident management should be part of the security policies of any organization, along with backup, continuity and resilience procedures.

The knowledge-based information society forces us to define data as intangible assets and to associate any data-related practice with the patrimonial rights of the individual. Thus, if we report this principle to the ISO 27001 standard, an ISO A2.8 (Asset Management) control, which involves the inclusion of personal data as information security assets, defines the personal data involved and the storage mode, storage life, origin and access policy, all of which are requirements of GDPR.

Adopting the concept of confidentiality through design is a particular requirement of GDPR, which becomes mandatory in the development of products and systems. ISO 27001 A.14 control on the acquisition, development and maintenance of systems ensures that information security is an integral part of the IT systems throughout the whole life cycle.

Another aspect that is regulated by both ISO 27001 and GDPR is the relationship with suppliers. In this respect, the requirements of the Regulation can be met by the correct implementation of control A.15.1, which regulates the protection of the organization's assets that can be accessed by the suppliers. If the organization delegates the processing and storage of personal data by the providers, the requirements of the regulation must be met by the special clauses in the commercial contacts concluded, the principle being stated by the control A.15.2.1 - Monitoring and analysis of the supplier's services.

These are the main common elements of ISO 27001 and GDPR. It is possible that after a customized analysis, adapted to the reality of the organization, other common points will be identified. It should be noted that even in GDPR there are many references to the importance of certification systems for faster compliance. Article 42 encourages the establishment of data protection certification mechanisms, and ISO 27001 is such a mechanism.

3. CONCLUSION

Information security is not just about technology. The concept of security is a broad one, involving, in addition to technology, people and processes. In addition to the technical controls implemented, structured documentation, monitoring and evaluation systems, implementation of the ISO 27001 standard promotes an awareness culture within organizations. Organization staff must have knowledge to be able to detect and report security incidents.

On the other hand, there are a number of essential requirements of the GDPR, which do not find a direct correspondent in the ISO 27001 controls. These requirements concern the consent of individuals, fair processing, minimization of processed personal data, limitation of the storage of these data, and legitimate interest, and supporting the rights of data subjects to access, rectify, erase and transfer data.

However, it is clear that ISO 27001 is a solid basis for meeting GDPR requirements. If an organization has implemented before launching GDPR specific procedures, much of the data protection and risk minimization requirements will be met.

It is important that the organization performs managerial analysis to see what it has to do to meet GDPR requirements and then these requirements can easily be added to the information security management system that is implemented and certified by ISO 27001.

4. LITERATURE

Kari Garnes, Ane Landøy, Angela Repanovici, Aspects of the Digital Library, LAKSEVÅG 2006

Colin Tankard, What the GDPR means for businesses, Network Security Volume 2016, Issue 6, June 2016, Pages 5-8

Nigel Knott, The General Data Protection Regulation, Faculty Dental Journal, Volume: 9 Issue: 2, April 2018, pp. 54-57

SOUTH EAST EUROPEAN ASSOCIATION OF LAW AND RELATED LIBRARIES

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ABSTRACT

The cooperation of the law and related libraries of South East Europe over thirteen-year period has been described. Faculty librarians have become participants in planning and ensuring the quality of education of students, and for the greater mobility of students and staff, faculties must increasingly cooperate with similar institutions at the regional and international level. The Association has its own website, and through the mailing list, a new way of communication has been opened and a large number of members have been introduced.

Key words: law libraries, SEAAL, cooperation

The cooperation of the law and related libraries of South East Europe started in 2005. In the thirteen-year period, with the joint efforts of all participants, the first regional network of lawyers and information specialists was established in our environment and it surpassed all expectations.

Initial cooperation was continued with the organization of law faculties of Mostar and Split, when the First Round Table of Librarians of South East European Association of Law and Related Libraries was held in Neum.

In the work of the First Round Table, 20 librarians from 14 law and other related institutions participated, and the immediate cause for the expert discussion was the reform of higher education, which was updated at the time throughout Europe.

At that time, the conclusion was reached that the reform of higher education is being changed by the role of librarians in the education process. High school librarians become associates in teaching, i.e. partners in ensuring quality of education.

Faculty librarians become participants in planning and ensuring the quality of education of students, and for the greater mobility of students and staff, faculties must increasingly cooperate with similar institutions at the regional and international level and create a network of related libraries, consisting primarily of university, then university and other libraries from the judiciary and attorney's offices and other state bodies.

It was a breakthrough moment in the further development of regional cooperation, which is continuing every year.

South East European Association of Law and Related Libraries (SEALL) was founded in 2008 at the Faculty of Law in Belgrade and is formally registered in Croatia with its headquarters at the Faculty of Law in Split.

The Association's strategic goals are:

- Inter-library cooperation and exchange of good practice
- Communication between members
- Professional solidarity
- Mutual respect and dialogue.

Today SEAAL has a regular membership consisting of 26 institutions and 45 individual members. Every year, two to three permanent consultations (Neum, Mostar, Belgrade and Sarajevo) are held, with occasional international workshops (Split) providing the organization with the necessary regular meetings.

The Association has its own website, and through the mailing list created in 2012, a new way of communication has been opened and a large number of members have been introduced.

Significant role in the regional network we also owe to a long-term cooperation with the Sarajevo Foundation "Kemal Bakaršić", our strategic partner from the very beginning, by jointly promoting the values of the library and information profession.

South East European Association of Law and Related Libraries has been a member of the International Association of Law Libraries since 2012 and has indirectly collaborated with other colleagues from the IFLA - Law Libraries Section by including in the Open Access project law knowledge - workshop for law libraries in the South Eastern European Region, Split on October 16, 2014.

As a product of inter-library cooperation, the registration of the South East European Association of Law and Related Libraries, abbreviated as SEALL, was successfully registered on January 29, 2009.

The core content of the Association is the exchange of information and publications for the purpose of improving all forms of inter-library cooperation, protection of the professional status of librarians, education and mobility, advocacy of the role and contribution of librarians to law profession and science, association with related associations, promotional and other accompanying activities related to the publishing activity and work of the Association, in accordance with special regulations.

South East European Association of Law and Related Libraries is registered in the Republic of Croatia, and the date of entry into the Registry has acquired the status of a law person. The Assembly of the Society is held annually at the Round Table of Librarians within the International Council on "Current Business Law and Law Practice".

The official document of the Association, created largely during the work within the International Council, is entitled "Role and competency of librarians in law and related libraries". Through this document, the Association seeks to define the profession of librarians in law and related libraries and contribute to the areas of law library, law and related areas, as well as their contribution to the parent institution and the user community, identifying the role of competency, and tasks and duties of librarians in law and related libraries.

This document can serve librarians in law and related libraries as a tool/guide for monitoring, planning, evaluating and upgrading continuing vocational education, development and training.

South East European Association of Law and Related Libraries can use the document as a framework for planning and structuring professional education and training programs that will ensure the acquisition and development of knowledge and skills needed for librarians in law and related libraries.

4. LITERATURE

- 1. Pet godina regionalne mreže pravnih i srodnih biblioteka Jugoistočne Europe. Neum 2005 2009.
- 2. Zbornik radova, Društva bibliotekara pravnih i srodnih biblioteka Jugoistočne Europe. Beograd, 2015.

THE ROLE OF THE UNIVERSITY LIBRARY AT THE AGRICULTURAL UNIVERSITY OF TIRANA ON THE FORMATION OF PhD STUDENTS

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ABSTRACT

Universities play a key role in the scientific research as well as the development of countries. A considerably important role within this framework is played by the science of Information and Scientific Libraries. The main objective of this article focused on providing a brief description on the role of the Scientific Library in PhD students' formation and in identifying information sources for the preparation of PhDs in the faculties of the Agricultural University of Tirana. Various sources of information have been used to accomplish this study, such as various questionnaires on the role of the AUT scientific library in the formation of students, a variety of information on the number of articles provided by the on-line library and printed articles, as well as the website of the Agricultural University, which provides the final data on the completion of PhD studies. Data was collected from 254 PhDs defended at the Agricultural University during 2014-2018. The outcomes and the data obtained demonstrated that 60% of students are satisfied with the role of the Library supporting scientific research, while the remaining part about 40% require simplification of on-line materials from the library for easier access and exploitation. Results and suggestions will be used to improve the quality of Information Science in Albania.

Key words: LSI research, Academic Libraries, Research Trend, PhD, Agricultural University of Tirana

1. INTRODUCTION

The Agricultural University of Tirana is the oldest educational center in the field of Agriculture and Environment in Albania. It was opened in 1951 and consists of 5 faculties: the Faculty of Agriculture and Environment, the Faculty of Economy and Agribusiness, the Faculty of Biotechnology and Food, the Faculty of Forestry Sciences and the Faculty of Veterinary Medicine. The academic offer of the Agricultural University of Tirana in relation to the PhD studies is of a broad spectrum as a result of the research fields covered by AUT.

Continuing education has undergone dynamic developments in many developing countries over the last few years, not only because of government funding, but also as a results of persistent demand of the individuals in specific programs to increase their professional and personal capacity (Espinoza & González, 2011). On the other hand, as of personal factors family support over the period of scientific research and the time dedicated to the whole process, with the culmination of thesis defence (Reisin & Carlino, 2009), is of great importance. Writing difficulties can be converted into an obstacle and hinder to be post-graduated after higher education (Carlino, 2005b; Pereira & Di Stefano, 2007).

Moreover strain about completion of the thesis in due time, which is no less important considering the fact that "original research should be published, because this is the only way to verify science novelties and then add them to the database of academic libraries ", (Day, 2005, p. 9).

The university library is "the centre of any professional training project at a university", (Lau, 2002). The Library is considered as the most important resource centre of information, whose management is based on the philosophy of globalization, in the use of new information and communication technologies, in cooperation and in quality, (Orera, 2007). In the so-called information society, the university library faces new challenges such as estimating access to information and it is forced to play a more dynamic role so as to achieve integration with the mission and objectives of the University by co-sharing substantial functions, such as: formation, research and cultural dissemination.

Our study aimed at describing the role and impact of the Scientific Library in the formation of PhD students and the impact of disseminating scientific information on the preparation of doctoral students.

Research methodology

The methodology to carry out the study was based on the Database of the Scientific Library and the Agricultural University of Tirana on the number of PhDs completed during 2014-2018 as well as the questionnaires filled in by the PhD students regarding the role of the AUT Scientific Library and its impact on the realization of scientific research. Design of questionnaires has narrowly defined exploitation of scientific articles, chapters of books and monographs when writing the theoretical part of PhDs and interpretation of data in relation to the argumentation of the results. Data management was handled via Microsoft Access and Excel programs.

2. RESULT AND DISCUSION

Our study took into account the years 2014-2018 of PhDs completion. The data for students who have completed PhD studies were obtained from the database of the Agricultural University of Tirana, (www.ubt.edu.al) as well as PhD records and registrations at the Scientific Library of the Agricultural University. The findings have been presented in Table 1.

N ₀	Years	Number of	Name of Faculty	Types of	
		Thesis		Supervision	
1	2014	21	Faculty of Agriculture and	Single Supervisor	
			Environment		
		12	Faculty of Economics and	Single Supervisor	
			Agribusiness		
		5	Faculty of Veterinary Medicine	Single Supervisor	
		4	Faculty of Forest Sciences	Single Supervisor	
		3	Faculty of Biotechnology and	Single Supervisor	
			Food		
	Total	45			
2	2015	28	Faculty of Agriculture and	Single Supervisor	
			Environment		
	19 Faculty of Economics and		Faculty of Economics and	Single Supervisor	
			Agribusiness		
		12	Faculty of Veterinary Medicine	Single Supervisor	
		7	Faculty of Forest Sciences	Single Supervisor	
		6	Faculty of Biotechnology and	Single Supervisor	
			Food		
	Total	72			
3	2016	17	Faculty of Agriculture and	Single Supervisor	
			Environment		
		12	Faculty of Economics and	Single Supervisor	
			Agribusiness		
		10	Faculty of Veterinary Medicine	Single Supervisor	
		4	Faculty of Forest Sciences	Single Supervisor	
		2	Faculty of Biotechnology and	Single Supervisor	
			Food		
	Total	45			
4	2017	23	Faculty of Agriculture and	Single Supervisor	
			Environment		
		12	Faculty of Economics and	Single Supervisor	
			Agribusiness		
		15	Faculty of Veterinary Medicine	Single Supervisor	
		4	Faculty of Forest Sciences	Single Supervisor	
		8	Faculty of Biotechnology and	Single Supervisor	
			Food		
	Total	64			
5	2018	15	Faculty of Agriculture and	Single Supervisor	
			Environment		

	0		<u>a:</u> 1 a :		
8		Faculty of Economics and	Single Supervisor		
		Agribusiness			
4		Faculty of Veterinary Medicine	Single Supervisor		
1 Facult		Faculty of Forest Sciences	Single Supervisor		
	0	Faculty of Biotechnology and	Single Supervisor		
		Food			
	28				
Tolal					
Defended PhD s (Total for all Faculties over 5 (five) years) 254					

Table 1. Year-wise Distribution of Doctoral Theses in Library and Information Science in Albania

Results obtained during 2014 demonstrated that the highest number of completed PhDs belongs to the Faculty of Agriculture and Environment with 21 PhDs, followed by the Faculty of Economy and Agribusiness with 12 PhDs, while the lowest number goes to the Faculty of Agricultural Biotechnology and Food with 3 PhDs. The same trend was observed even during 2015, nevertheless during this year the number of PhDs increased per each faculty subject to analysis. The Faculty of Agriculture and Environment has had an increase in the number of completed PhDs with 24.5%. The same trend has been observed even for the three other faculties, where the number of completed PhDs has resulted in an increase of 7 PhDs at the Faculty of Economy and Agribusiness and 3 PhDs at the Faculty of Forestry Sciences and the Faculty of Biotechnology and Food.

The results of 2016 did not comply with the previous results, where the PhD completion trend resulted in a decrease in the number of defended PhDs considering all the faculties subject to analysis. The Faculty of Agriculture and Environment resulted with 17 PhDs, the Faculty of Economy and Agribusiness with 12 PhDs, the Faculty of Veterinary Medicine with 10 PhDs, the Faculty of Forestry Sciences with 4 PhDs and the Faculty of Biotechnology and Food with 2 completed PhDs.

During 2017 there was an increase in the number of completed PhDs at the Faculty of Agriculture and Environment (23 PhDs) and the Faculty of Veterinary Medicine with 15 PhDs, while the other faculties resulted with the same figures, respectively 12 for the Faculty of Economy and Agribusiness and 4 completed PhDs for the Faculty of Forestry.

The year 2018 has resulted in a significant decline compared to 2015 and 2018. The Faculty of Agriculture and Environment has had a considerable decrease, from 23 to 15 defended PhDs, the same results are displayed for the other faculties (Table 1).

The highest number of PhDs defended at the Faculty of Agriculture and Environment is closely related to the advanced infrastructure of the Faculty, which has invested more than \$ 1 Million over the last ten years (unpublished data) in improving the infrastructure of scientific research laboratories. Moreover this result is closely linked to the great needs and

demands for qualifications of individuals working in the field of agriculture and the environment.

Another finding of the study lies on the fact that in none of the observed cases of all the faculties where the PhDs were completed, were co-mentored by two professors, but in all cases they were mentored by a Single Supervisor, a different phenomenon from Universities in the EU countries, where the PhD is generally co-mentored by two supervisors.

The questionnaire conducted on the use of literature (scientific articles, monographs and book chapters) offered by the Scientific Library of AUT shows that the most widely used literature is the one offered on-line by the Information Sector.

The results have shown that 60% of PhD students have graded as excellent the positive role in obtaining scientific information, while the other 40% suggest simplification of the on-line access to materials. As of the results the most quoted papers were the scientific articles, followed by monographs and in considerably lower percentages PhD theses and proceedings of scientific conferences.

1050 journal titles have been identified, 40% of which are found via electronic format in the library system of the Agricultural University of Tirana. As of the use of monographs and books 35% of them are available in the AUT Library.

These types of analysis help the decision making process in library collection development, as they are considered as indicators for enriching or subscribing to the most quoted titles and lack of interest for the least-consulted journals.

3. CONCLUSION

The outcomes of the study show that the Faculty of Agriculture and Environment has the largest number of PhDs. The key role in providing appropriate literature to the students formation was played by the University's Scientific Library via availability of printed and on-line articles for PhD students.

Some problems that we have encountered during our identification process refer to mistakes in writing bibliographic references, regardless of the strict writing standards to be met by PhD students. We suggest using Endnote and Reference Manager Programs for their correction so as to prepare the bibliographies.

It is absolutely imperative to search, find and offer availability to the latest scientific articles in the upcoming years, through continuous communication with the authors of publications as well as enable access to the Web of Knowledge network, so that students can access the necessary literature for their scientific knowledge.

4. LITERATURE

Espinoza, O., & González, L.E. (2011). Experiencias y aspectos a considerar para la implementación de un sistema de información de apoyo para el aprendizaje a lo largo de la vida en Chile. Revista Calidad en la Educación.34 (Julio), 125-163.

Carlino, P. (2009). Exploración de géneros, diario de tesis y revisión entre pares: análisis de un ciclo de investigación-acción en talleres de tesis de posgrado. En E. Narvaja (Ed.), Escritura y producción de conocimiento en las carreras de posgrado (pp.220-239). Buenos Aires: Santiago Arcos.

Carlino, P. (2005b). ¿Por qué no se completan las tesis en los posgrados? Obstáculos percibidos por maestrandos en curso y magistri exitosos. Educere, 9 (30), 415-420. Recuperado de http://www.saber.ula.ve/handle/123456789/19980

Day, R. A. (2005). Cómo escribir y publicar trabajos científicos. Phoenix: The oryx press Lau, Jesús (2002). Bibliotecas universitarias: su importancia en el proceso de acreditación.Gaceta Universitaria. 17:149 (2002) 8

Orera-Orera, Luisa (2007). La biblioteca universitaria ante el nuevo modelo social y educativo.El Profesional de la Información. 16:4 (2007) 329-337.

Pereira, C., & Di Stefano, M. (2007). El taller de escritura en posgrado: Representaciones sociales e interacción entre pares. Revista signos, 40(64), 405-430. Recuperadode http://www.escrituraylectura.com.ar/posgrado/articulos.htm.

POSTERS' PRESENTATION

EXPOSING RESEARCH PUBLICATIONS TO THE GOOGLE SCHOLAR CRAWLER

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ABSTRACT

Google Scholar provides a platform for academics to expose their research publications to a wide academic audience, in contrast with the Google search engine. Google often produces large numbers of results, of which many are irrelevant to an academic searcher. The research problem is that it is difficult to ensure that the Google Scholar crawler indexes and displays academic research publications. A literature survey, in-depth study of the Google Scholar guidelines, and a static website were used to design a simple system to test the functioning of the Google Scholar crawler. It was found that, using this system, it can be guaranteed that academic publications exposed through it, are found and indexed by the Google Scholar crawler.

Key words: Google Scholar, crawler, research publications, visibility

1. INTRODUCTION

Google Scholar (GS) is an information retrieval system which provides results of only an academic nature, like journal articles and book chapters, on very specific research topics (Ortega 2017). However, GS differs widely from the standard Google search engine as many people know it. The two products use different algorithms to determine ranking, they store the crawled pages in separate indices, and present the results in different ways. Furthermore, they use different Web addresses and interfaces to submit webpages to be indexed, and their crawlers take different lengths of time to visit and indexed pages having been submitted to them.

Arguably the biggest difference between the two is the fact that where Google produces all kinds of results, including commercial websites and advertisements, GS produces mostly academic results. These include books, journal articles and conference papers (Ferreras-Fernández*et al* 2016).

The objective of this project was to design a system, which can easily be duplicated, to maximise the chances that the GS crawler will index academic publications (Semenza*et al* 2017).

University libraries have generally been tasked with, amongst other things, the responsibility to ensure that e-copies of academic literature is exposed to the search engines, to increase the reach of these documents (Weideman 2013). This was the motivating factor behind this research project.

2. RESEARCH PROBLEM

The GS crawler does not automatically index academic publications, which could lead to some publications not being indexed at all. Also, the standard rules of search engine optimisation (SEO) do not hold for the GS algorithm. Although guidelines are supplied (Anonymous n.d.a), they are not very clear.

The research problem is thus that it is difficult to ensure that academic publications are detected, crawled and indexed by GS, leading to a lack of visibility of these publications.

3. METHOD

Initially, aliterature survey was done to determine what previous research has been done. Secondly, the GS guidelines were studied in detail, and reduced to a simple set of "rules". See Figure 1 for the typical interface used to access the submission process of GS.

Google Scholar Inclusions						
Inclusions						
	Submit a website with academic anticles to Google Scholar. We accept journal papers, conference papers, technical reports, di prints, post-prints and abstracts. All fields marked with * are required.					
	Type of website:	DSpace repository	EPrints repository			
		Other repository	Open Journal Systems OJS website			
		Other journal website	Personal publications			

Figure 1: Interface of the GS submission system (Anonymous n.d.a).

Finally, a website was built to combine this information into a simple retrieval system, which would meet the conditions set by GS. This includes the creation of a "bare-bones" HTML webpage for every publication. Various testshave been carried out to measure the accuracy of the system, and the timeliness of indexing by the GS crawler (Kritzinger*et al* 2017). GS typically displays a list of publications of a given author, plus a graphical display of the author's citation count – see Figure 2.

≡ Google So	cholar					
6	Albert Einstein		Follow	Cited by	All	VIEW ALL Since 2013
S.	Physics			Citations h-index i10-index	117574 106 380	35115 64 220
TITLE		CITED BY	YEAR			8000
Can quantum-r A Einstein, B Podo Physical review 47	mechanical description of physical reality be considered complete? bibly, N Rosen (10), 777	16855	1935	лI	Ш	6000
Uber einen die Gesichtpunkt A Einstein Ann. Phys. 17, 132	Erzeugung und Verwandlung des Lichtes betreffenden heurischen	11276 *	1905	2011 2012 2013	2014 2015 2016 2	2000

Figure 2: An example of how GS displays itscitation indices (Anonymous n.d.b).

4. RESULTS

The results of testing this system are as follows:

- The system was not difficult to build
- Much time was required to identify and prepare research outputs in a standardised format
- The creation of the bare-bones HTML pages has to be done with care see Figure 3.

- Manual submission to the GS crawler takes longer than those for the standard Google search engine.

- The waiting time for crawler visitation can be as long as 6 weeks, as opposed to typically less than 24 hours for Google.

- Research outputs exposed through the system were all included in the GS index (Weideman 2018).

SEO vs PPC: A Model To Determine The Most Effective Digital Marketing Budget Division

Weideman, M.

Proceedings of the 3rd International Conference on Social Sciences.

Weideman, M. 2017. SEO vs PPC: A Model To Determine The Most Effective Digital Marketing Budget Division. Proceedings of the 3rd International Conference on Social Sciences. 09 September-10 September, Istanbul, Turkey

ABSTRACT Many search engine marketing campaigns channel most of the budget towards pay-per-click (PPC) schemes, with a small fraction going towards search engine optimisation (SEO). This research aimed at finding the best way to allocate a marketing budget across these two platforms. Firstly, a comparison was made between high-ranking websites to see how PPC and SEO respectively have been applied. It was found that an investment in SEO was seldon made. Secondly, the cross-over point between expenditure on the two systems was determined in a case study. It was determined that the website traffic crossed over after around three months, and the expenditure after six months. From SEO became more cost-effective, Finally, the cost per caquisition (CPA) was determined for bath PPC and SEO. Results show that the CPA for SEO was significantly lower than for PPC, in all the test cases investigated. In conclusion, a dual approach is proposed. A model was designed, which could be applied to design a cost-effective search engine marketing strategy. When applying this strategy correctly, expenditure will be reduced and yield increased.

PETEPENCES

- FERENCES
 A. MIREGRERNINTERNET MARKETING LID. Internet growth. 2005. Access from: http://www.ambergreenlaterastmarketing.com/index.chml
 2. BIGINS, J., CHU, M., MANYIKA, J. Ten IT-mabled business trends for the decade aloxed. MKKiney Quarterly, 2011, 2013.
 BIGNSS, E. C. MURINER, ANNIKA, J. Ten IT-mabled business trends for the decade aloxed. MKKiney Quarterly, 2011, 2014.
 BIGNSS, E. C. MURINE, A. MURINE, A. J. C. MURINE, A. MURINE, MURINE, MURINE, MURINE, MURINE

Figure 3: An example of a typical bare-bones HTML page, coded for this system (Burger 2018).

5. CONCLUSION AND FUTURE RESEARCH

It was found that indexing by the GS crawler can be guaranteed when using this system. Some factors to keep in mind include the following:

- This GS system can be worth the effort to build, provided that assistance is available to standardize the outputs, create the bare-bones HTML pages, do the basic Web design and maintenance and finalise the submissions to the GS system.

- The exposure of a given set of publications should be checked before submission, to allow sensible comparisons afterwards.

Possible future research could include the measurement of the actual crawler indexing time, plus a study on the factors which influence the ranking of academic publications listed in GS.

6. REFERENCES

Anonymous, n.d.a*Google Scholar Inclusions*. Retrieved from https://partnerdash.google.com/partnerdash/d/scholarinclusions?rd=1#p:id=new [24 May 2018].

Anonymous, n.d.b*Albert Einstein*. Retrieved from https://scholar.google.co.za/citations?user=qc6CJjYAAAAJ&hl=en&oi=ao [22 May 2018].

Burger, C. 2018. SEO vs PPC: *A Model To Determine The Most Effective Digital Marketing Budget Division*. Retrieved fromhttp://web-visibility.co.za/0055-conference-paper-2017-weideman-seo-ppc-model-digital-marketing-budget-division.html [29 May 2018]. Ferreras-Fernández, T., García-Peñalvo, F., Merlo-Vega, J.A. and Martín-Rodero, H. 2016. Providing open access to PhD theses: visibility and citation benefits. *Program*, 50(4): 399-416. Retrieved from https://doi.org/10.1108/PROG-04-2016-0039 [28 May 2018].

Kritzinger, W.T. & Weideman, M. 2017. Parallel search engine optimisation and pay-perclick campaigns: A comparison of cost per acquisition. *South African Journal of Information Management*, 19(1), a820.Retrieved fromhttp://web-visibility.co.za/0181-journal article-2017-kritzinger-weideman-search-engines-cost-per-acquisition.html[17 May 2018]. Ortega, J.L. 2017. Toward a homogenization of academic social sites: A longitudinal study of profiles in Academia.edu, Google Scholar Citations and ResearchGate. *Online Information Review*, 41(6): 812-825.Retrieved fromhttps://doi.org/10.1108/OIR-01-2016-0012 [21 May 2018].

Semenza, J.L, Koury, R. and Shropshire, S. 2017. Diversity at work in academic libraries 2010-2015: an annotated bibliography. *Collection Building*, 36(3): 89-95.Retrieved from https://doi.org/10.1108/CB-12-2016-0038[21 May 2018].

Weideman, M. 2018. *Digital Library*. Retrieved from http://web-visibility.co.za/website-visibility-digital-library-seo/ [27 May 2018].

Weideman, M. 2013. Comparative analysis of homepage Website visibility and academic rankings for UK universities. *Information Research*,18(4) paper 599. Retrieved fromwww.web-visibility.co.za/0053-journal-article-2013-weideman-uk-university-website-visibility-comparison.html [23 May 2018].

SEARCHING FOR RESEARCH PUBLICATIONS BY VOICE ON GOOGLE SCHOLAR

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ABSTRACT

Google Scholar (GS) is an additional service to the basic Google search engine, which offers freely accessible full text, plus its metadata, of published research documents across a number of disciplines and publishing formats. However, GS does not yet seem to allow for searching scholarly literature by voice. This was confirmed during a batch of experiments to test the same query, spoken and typed, on both Google and GS. This poses a problem especially on smartphones. A literature survey was done on the current and future status of voice search on smartphones. Voice search is fast becoming the search method of choice on smartphones with predictions that by 2020 more than 50 percent of search queries on smartphones will be by voice. This may have implications for the retrieval of scholarly literature on GS by the majority of smartphone users.

Key words: Google Scholar, voice search, smartphones, data visibility

1. INTRODUCTION

Voice search is changing the landscape of search on smartphones. A strong increase in the availability of digital assistants and progress with algorithmic updates has caused an improvement in the accuracy of interpreting natural language queries, as done by voice. The average person can type between 38 to 40 words per minute but can speak at a rate of 110 to 150 words per minute. It is 3.75 times faster to talk than it is to type (Ruan *et al.* 2016).

Google reported a 35% rise in voice queries since 2008 (Sentance 2016). As of May 2016, 20% of Google mobile searches are now by voice. It is estimated that by 2020, a total of 50% of all search will be by either voice or image (comScore 2017). These numbers are expected to grow and may greatly impact searching for scholarly literature on GS using voice.

When searching by voice users are generally expecting answers to questions. Over the past few years there has been a significant growth in searches that start with questions, and those questions perform much better in revealing search intent (Guy 2016). What/who and how questions will generally show interest/research and when and where questions will generally indicate that users are ready to make a purchase. The question remains whether different

algorithms are employed to handle conversational voice versus text queries and random voice versus text queries.

2. RESEARCH PROBLEM

The GS user interface on smartphones does not offer the feature of searching for scholarly literature by voice (see Figure 1). With the rise of voice search fast becoming the preferred method of search on smartphones it is therefore not possible to search for scholarly literature on the go.



Figure 1: The GS search engine interface on a Samsung smartphone.

3. METHOD

A literature survey was done to determine if and why/why not GS offers the feature to search by voice on smartphones (Jeng*et al* 2013). Secondly a voice search was done on Google using a Samsung smartphone to find scholarly literature on GS related to the topic of schema markup. See Figure 2 for the search engine result page on Google.



Figure 2: Search engine result page for the voice query: "Search Google Scholar for literature on schema markup" performed on Google using a Samsung smartphone.

4. RESULTS

The results of this research are as follows:

- 1. Google Scholar on smartphones does not offer the option to search for scholarly literature by voice.
- 2. No reasons why voice cannot be used to search for scholarly literature on GS using a smartphone were found.

5. CONCLUSION AND FUTURE RESEARCH

This research found that users cannot use search for scholarly literature on GS using voice. With the increase in the use of voice search on smartphones this may create great frustrations for academics trying to find scholarly literature on the go (Weideman 2015).

Possible future research could focus on a study of the reasons why GS does not offer the option for searching by voice on smartphones.

5. REFERENCES

comScore, 2017. 2017 U.S. Cross-Platform Future in Focus. *comScore, Inc.* Available at: https://www.comscore.com/Insights/Presentations-and-Whitepapers/2017/2017-US-Cross-Platform-Future-in-Focus [6 April 2018].

Guy, I., 2016. Searching by Talking: Analysis of Voice Queries on Mobile Web Search. In

Proceedings of the 39th International ACM SIGIR Conference on Research and Development in Information Retrieval. SIGIR '16. New York, NY, USA: ACM, pp. 35–44.

- Jeng, W., Jiang, J. and He, D. 2013. Users' Perceived Difficulties and Corresponding Reformulation Strategies in Voice Search. *In Proceedings of HCIR 2013*, Vancouver, BC, Canada, Oct 3-4.
- Ruan, S. et al., 2016. Speech is 3x faster than typing for english and mandarin text entry on mobile devices. arXiv preprint arXiv:1608. 07323. Available at: http://hci.stanford.edu/research/speech/paper/speech_paper.pdf [28 May 2018].
- Sentance, R., 2016. What does Meeker's Internet Trends report tell us about voice search? *Search Engine Watch*. Available at: https://searchenginewatch.com/2016/06/03/what-does-meekers-internet-trends-report-tell-us-about-voice-search/ [20 May 2018].
- Weideman, M. 2015. ETD Visibility: A study on the exposure of Indian ETDs to the Google Scholar crawler. *Proceedings of The 18th International Symposium on Theses and Dissertations*. 2-4 November. New Delhi, India: 227 – 239.

WORKSHOPS

WORKSHOP: INFORMATION ENCOUNTERING AND NEW INFORMATION LITERACY

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One word associated with our modern information age is *change*. It is a constant factor in technologies we use to interact with information. Change also permeates how we perceive and evaluate the quality of information. The focus of this workshop isto present a model of information literacy that provides empowerment with a capacity for early detection of changes and identification of the opportunities and threats these changes may bring. The workshop is build on the perspectives of library and information science research, especially the latest findings in the study of information encountering, or serendipity in information behavior. The participants will first become familiar with the process of information encountering and its relation to the traditional models of information literacy. The second part of the workshop will include interactive exercises where participants will learn about their own information encountering styles and about novel pedagogical strategies for integrating information encountering into teaching information literacy.

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How to set up your Living Library

- 1. Set a date and time for your Living Library kickoff event.
- 2. Start your "collection of books" by getting friends, colleagues and others to develop a book title and prepare a "story" about a topic they are expert in.
- 3. Promote by word of mouth and other channels to create buzz about what the Living Library is and how users can engage with this living collection of stories.
- 4. Close to the date of the first Living Library event, create a menu of books. If you can, develop a schedule for the 1-2 hour time period for the event. Give 10-15 minute slots for books to be checked out, get a few people to sign up for these sessions, but have some books ready for quick "browsing."
- 5. After the initial Living Library event, continue to develop the Living Library collection and maintain in the way that works best. A monthly event or an electronic community could work well for on-going success in community engagement.

KEYNOTE SPEAKER

Tefko Saracevic (USA) – Information Literacy and Quality of Information (Considerations for library & information services in the networked world)

Sanda Erdelez (USA) – Encountering Information in a Rapidly Changing Environment

Jesús Lau (Mexico) – Getting the Truth: Building MIL Skills with a Meaningful Learning Experience

