



Information Literacy Association



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Online
20-23 September 2021**

Editors: S. Špiranec, S. Kurbanoglu, D. Kos & J. Boustany

Abstracts

The Seventh European Conference on Information Literacy (ECIL)

September 20th-23rd, 2021, Online

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Paris, 2021

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Sonja Špiranec, Serap Kurbanoğlu, Denis Kos, Joumana Boustany

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Foreword

Dear participants of ECIL 2021, dear colleagues and friends,

we present with great joy the Abstract Book of the 7th European Conference of Information Literacy! ECIL 2021 is co-organized by the Department of Information Management of Hacettepe University (Turkey), the Department of Information and Communication Sciences of Zagreb University (Croatia), and the Information Literacy Association (InLitAs) (France).

Our journey to the 7th edition of ECIL faced many challenges. The ongoing COVID-19 pandemic stopped the world in its tracks and forced us to postpone the conference back in 2020. However, realizing how crucial the exchange of knowledge is at the present moment the organizing committee decided to have ECIL at all costs. Together, with you, dear participants, we have managed to get over all feelings of trepidation and put together another great conference full of relevant and timely contributions. While saddened that we will not be able to meet in real life in the wonderful city of Bamberg, the spirit of ECIL has been continued in the digital arena as an online conference.

This year's theme "Information Literacy in a Post-Truth Era" is debated at a time when fake news, misinformation and disinformation permeate our media and further erode trust in scientific expertise and politics. The central phenomenon of our research and practice, information literacy, is being tested for its real-life value. It has not for a long time been as clear as it is at this moment that the barriers to the exchange of accurate information and knowledge can exact the heaviest price. The gravity of this topic is immense, and we are delighted to present a pertinent program to address it.

This year we had 316 original submitted proposals, of which 139 were finally accepted for presentation and are included in the Book of Abstracts. Among these there are 84 papers and two doctoral forum contributions, 24 best practices contributions, six workshops, 12 posters, 7 PechaKucha presentations and two panels.

We have three keynote speakers and one invited speaker. Olof Sundin researches the configuration of information in contemporary society, the construction of public knowledge in relation to trust, and information searching and use. Markus Behmer's main fields of research are media history, recent trends in journalism focusing especially on media ethics and press freedom, cultural communication, and the role of media in the field of development cooperation. Stephan Lewandowsky explores the potential conflict between human cognition and the physics of global climate change, which has led him into collaborative research in climate science and climate modeling. Our invited speaker, Alexandra Becker leads projects in which the development of the university is systematically surveyed from the perspective of student orientation.

The successful organization of ECIL rests upon the commitment of its community of authors and participants and the hard work of the Standing, Programme and Organizing Committees. As we wave to each other across great distances and virtually meet for one more round of excellent reports about developments in information literacy research and practice, we send a big thank you to all of you who have contributed to organizing the 7th European Conference on Information Literacy!

On behalf of the Organizing Committee,

Sonja Špiranec and Denis Kos

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KEYNOTES

Algorithms and Platforms: Is there a Place for Information Literacy?

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In my talk, I take as my starting point one of the fundamental challenges facing society – the ongoing *crisis of information*. I discuss how this crisis is reshaping the relationship between information *access* and *control*, how it is increasing the demands on individual responsibility, and how it is challenging the very concept of information literacy.

The growing dominance of search engines, social media, and recommender systems as access points to any kind of information has exacerbated what can be called an ongoing crisis of information. However, this significant technological development should not be viewed in isolation, but in the context of political, economic, legal, and other current societal changes. I argue that the crisis of information can be characterized by an increasing fragmentation, individualization, emotionalization, and politicization of information, which is reinforced by an increasing erosion of collective trust.

As a policy area, professional practice and research field, information literacy is caught in the tension between access to and control of information in society. On the one hand, information literacy is supposed to make access to information possible. On the other hand, information literacy is about exercising control over how information is found, critically evaluated, and ultimately deemed trustworthy. The rise of global corporate digital platforms, their sophisticated algorithms, and the commodification of user data have contributed to a redistribution of control over information in society.

This redistribution has greatly changed the terms of how and by whom control over information should be exercised, and ultimately how the goal of information literacy is formulated. Commercial actors have different responsibilities with respect to information control than public actors traditionally had. The responsibility for protecting citizens from what is often called misinformation and disinformation is largely being transferred from public institutions to citizens themselves. In my talk, I will relate this trend to a larger development in society often referred to as responsabilization: Citizens are being asked to take on tasks that were once the responsibility of public institutions. The inherent tension between access and control in information literacy has therefore become more difficult to handle than ever.

Information literacy is about the responsibility of the individual in terms of handling information, whether as a citizen or as a consumer. Information literacy is often about encouraging participation in deliberative democracy, but it is also about supporting the development of a rational consumer. On superficial inspection, these two goals may seem the same. However, in the final part of the talk, I discuss how the difference between the two goals is often obscured and how mixing them can lead to serious problems for information literacy, whether as a policy area, a professional practice, or a research subject.

My talk draws on the forthcoming book “Paradoxes of Media and Information Literacy: The Crisis of Information” (Routledge, due spring 2022), with Jutta Haider.

Keywords: *algorithms, platforms, information literacy, trust, crisis of information*

Information Discernment in the “Post-truth” World

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We are said to live in a “post-truth” world that is awash in misinformation online. Why does misinformation find traction, and how can we protect society against its adverse consequence? I review the factors underlying the acceptance of misinformation, focusing in particular on the substitution of authenticity for factual accuracy within a populist logic. I then review the theory and practice of inoculation, which seeks to prevent the spread of misinformation online by warning people that they might be misled and by teaching them how to detect misleading rhetoric. I report five experiments that used short, easily scalable videos that can inoculate people against misinformation techniques commonly encountered online: the use of emotional language, incoherence, false dichotomies, scapegoating and ad hominem attacks. These videos demonstrably improve people’s ability to recognize the use of misinformation techniques in social media content, their confidence in spotting these techniques, their ability to discern trustworthy from untrustworthy online content, and the quality of their sharing decisions. I also review other instances in which inoculation has been found to be successful. I conclude with a brief survey of the entire ensemble of tools that are available to harness the “post-truth” world.

Keywords: *information discernment, post-truth, misinformation*

Overnewsed but Underinformed? Some Challenges and Contradictions of the Information Society in the Digital Age

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Till Krause

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The aphorism that we all are overnewsed but underinformed is ascribed to Aldous Huxley – way back in the last century: Too much information, too little cognition.

The wisdom of the world is just a few clicks away and facts could be so accessible. Yet this “brave new world” has turned out very differently from what Huxley’s Dystopia described. And many visions or promises of an inclusive information society with open, participatory discourse through digital participation options for (almost) everyone, more democracy and civilization through intensive citizen participation opportunities, citizen journalism instead of elite and/or corporate media — they didn’t come true. Fake news and disinformation, filter bubbles and echo chambers, conspiracy theories and hate speech are keywords of our days.

“Classic” journalism and its actors are also facing enormous challenges – not just economically: What about the credibility of the media? How can it be preserved or regained? Does the noble motto “be first but first be right” still apply today – and with it the claim that accuracy has to take precedence over topicality? Are old principles still up-to-date like the one that journalists shouldn’t do PR and that statements made in confidence shouldn’t be passed on or that sources should remain anonymous in the event of a conflict?

Journalism researcher Markus Behmer and Till Krause, award-winning editor at Süddeutsche Zeitung Magazine, will exchange ideas about this. With theses, antitheses and examples, they give insights into current research and their practical implications of (digital) journalism. They try to make clear, that information literacy as well as media accountability are complex constructs. To increase it, many actors in an enlightened society must work together.

Keywords: *journalism, information society, digital age*

INVITED PAPERS

Shift from Teaching to Learning?! How Learning Spaces Enable Information Competencies of Students and Teachers. Status Quo and Challenges at German Universities

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Starting from the constructivist turn (Hofmann & Hirschauer, 2012) Barr and Tagg called for a shift from teaching to learning as early as 1995 (Barr & Tagg, 1995). Together with the demands of the economy for successful students, the Bologna process for competence orientation (Prandini et al., 2021; Simon, 2021), the state for more participation, transparency, effectiveness and efficiency (Bogumil, 2010, p. 3) and this leads to diverse and contradicting demands on the entire university. In order to meet these requirements, the perspective of student orientation is a possibility that also has an impact on the physical teaching and learning rooms.

It turns out that for the new forms of teaching and learning it is necessary to design professional, practice-related rooms that enable student-oriented, objectified, self-organized, team-subjective, multimedia and participative teaching (Reich, 2005, p. 6). In addition, there is the demand for transdisciplinarity, which focuses on socially relevant problems and initiates joint learning processes among researchers, non-university actors and students. The aim is to generate solutions that are socially robust on the one hand and can be transferred to scientific and social practice on the other (Pelikan, 2020). This also includes making research results tangible, the interplay of task, social form and media and a meaningful connection to virtuality. At the same time, there are demands that the room provide stability for recurring rituals, i.e., social interactions and good spatial orientation.

The research project *Lernwelt Hochschule* and the follow-up project *Lernwelt Hochschule 2030* examined the current status of the German higher education world with regard to the implementation of student orientation. But this requires that all areas of the university work together. This not only includes university didactics, but also IT, the university organization and the infrastructure that provides the physical teaching and learning rooms. In this lecture the results of the projects will be presented. This includes challenges found as well as examples of good practice for the design of the physical teaching and learning space.

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Keywords: *physical teaching and learning rooms, student orientation, design, research results, University development*

PAPERS

Deconstructing Information Literacy in Higher Education (ILiHE): A Practice Perspective

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Practice theoretical frameworks, which have been used to examine workplace and community settings (e.g. Lloyd, 2010; Moring, 2012; Pilerot, 2016; Hicks, 2019), position information literacy as a practice composed of the knowledge, competencies and skills that form a way of knowing an information landscape. While these studies have made considerable contributions to the theorisation of information literacy, there has been little attempt to apply this theoretical lens to the practice of information literacy in higher education (ILiHE). This has impeded an examination of the ways in which ILiHE is constrained and enabled as well as limiting an examination of its sustainability as well as its social justice aims. The research presented here aims to address this oversight by exploring the discourses that are represented in the preamble to information literacy guidelines and models as well as the specific goals and learning outcomes that are established as part of the practice. Findings from this presentation, which forms part of a larger programme of research (Deconstructing IL (DIL)) that is interrogating the discourse of information literacy practice in the higher education sector, will contribute to the ongoing conceptualisation of information literacy.

Employing a discourse analytical approach, this study examines the 193 learning goals that were identified and extracted from five institutional and commonly-used models of information literacy that have emerged in English since 2011 (AACU, 2013; ACRL, 2015; Jacobson & Mackey, 2013; SCONUL, 2011; Secker & Coonan, 2013). Learning outcomes were coded by two researchers in an iterative process which produced 12 thematic codes. These codes were subsequently examined in light of the preambles to information literacy models to interrogate elements of the practice as well as the reification of information literacy in discourses of higher education. Theory of practice architectures (Mahon, Kemmis, Francisco, Lloyd, 2017), which centres the arrangements that shape practice, was employed to further interrogate the semantic, material and social spaces that constrain and enable the enactment of information literacy practice in this context. Resulting in the identification of the common skills and emphases that are presented within popular guidelines and models, findings from this study provide insight into the applied aspect of information literacy as it is practised in higher education. The interrogation of these findings through the theory of practice architectures further frames a discussion about the shape of information literacy practice within the sector.

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Keywords: higher education, practice theory, discourse analysis, theory of practice architectures

Literally Looking at Links – Mapping Communication and Content on Twitter

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Social media offers multiple parties inside and outside politics (e.g., teachers and other educational professionals) the opportunity to start bottom-up initiatives and acquire social capital (Rehm, 2018). Similarly, influenced by an increased influence of information technology and individualization, the role of policy makers has changed and given way to more (horizontal) cooperation between the government and (public) networks of relevant actors is central (Klijn & Koppenjan, 2012). In this context, social media platforms, such as Twitter, are increasingly utilized to share resources and initiate relevant discussions about (educational) policy. Yet, previous research on this topic can be criticized on the basis of three main issues. First, while social capital has been identified and analyzed in a number of social media settings (Rehm, Cornelissen, Notten, Daly, & Supovitz, 2020), considerable uncertainty remains about how social capital and content might shape (educational) policy processes. Second, educational professionals have largely been neglected from the analysis of policy processes and social capital formation within social media. Finally, while “tweeting” has been identified as a central new information literacy practice (Click & Petit, 2010), more research is required to map and better understand the underlying communication patterns within these spaces.

The present study focuses on 15 US-based hashtags where educational leaders and policy makers exchange opinions, experiences and resources on the topic of school leadership. We collected 1,223,646 Tweets from the June 2017 until June 2019. Departing from a mixed-methods approach, we first used social network analyses to identify underlying activity patterns. Second, we analyzed all text within the tweets. Moreover, employing web-scraping techniques to identify the sources (urls) of the links being shared, we collected all textual elements from the applicable websites. Finally, we used latent semantic analysis and latent dirichlet allocation, in order to analyze the underlying topical structure of the data set.

Our results suggest a large network structure comprised of unique communities wherein a variety of resources are being shared. Moreover, key players had the chance to influence and affect the flow of information and the type of resources being shared. Additionally, we identified different categories for the resources and content being shared. These findings are valuable for researchers and practitioners alike, as they map the underlying communication patterns and provide valuable insights into who is promoting what types of resources as part of the emerging governance approach on social media.

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Keywords: social capital, social media, Twitter, social network analysis, web scraping, semantic analysis

Culturally Grounded Approaches to Information Literacy Understanding

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This study explores culturally grounded approaches to Information Literacy (IL) understanding through the experiences of Bulgarian academic librarians. The IL experiences encompass people's engagement with information (Bruce, 1997, 2013). IL could be established and operationalized as a specific practice within a specific context (Lloyd, 2012) while both experiences and practice are correlated to specific understanding of IL. The understanding of IL defines the frameworks for teaching IL in academic settings and impacts pedagogy. The body of literature suggests that IL understanding may vary in different parts of the world depending on factors such as historical perspective and socio-cultural characteristics (Bruce, 1997; Špiranec & Pejova, 2010; Whitworth, 2014). Hence, existing frameworks and best practice models from abroad cannot be copied or nested into IL policies. This study aims at illuminating a culturally situated understanding of IL contextualized by a particular landscape in terms of a specific geographic region with related socio-cultural characteristics.

The study explored and generated insights into Bulgarian librarians' understanding of IL by employing *instrumental* (with *exploratory* and *ethnographic* elements) case study (Simons, 2009). Data was collected through 20 semi-structured in-depth interviews with Bulgarian academic librarians from 17 academic libraries (representing three different types of academic libraries/universities identified for the purpose of this study and including: library studies related, traditional broad discipline scope universities and specialized universities); unobtrusive data set(s) collection and examination (publications, etc., by Bulgarian academic librarians; handouts and flyers; publications from professional organizations; grants & corresponding findings or developments); artifact analysis (websites, tutorials), and field observations and analysis on the information environment and activities in the three different types of academic libraries). The selected libraries are fair representation of the three types of academic libraries and are located across the country.

This study provides a view of the information literacy understanding among Bulgarian academic librarians and adds to the international pool of knowledge in the field while addressing the need to apply culturally grounded approaches to IL to better serve specific groups. The information literacy experiences and practices of Bulgarian academic librarians show that they understand IL mainly as a concept closely related to subject area competency. Their understanding is highly influenced by the socio-cultural characteristics and traditions in education and librarianship in the country. The findings also reveal that: Bulgarian academic librarians often consider familiarity with information technologies as Information Literacy; a piece of information is significant and useful if it helps a person to solve a problem and/or to advance knowledge; Bulgarians do not like to ask for help; and that there is a lot of pressure to catch up with developments and best practices in the outside IL paradigm. The study will help with assessing the IL paradigm and facilitating further inquiry into suitable framework and practices.

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Keywords: *information literacy, inclusive education, academic libraries, Bulgaria*

Bookending ARFIS: The Development, Final Results, and Current State of the Academic Reading Format International Study

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The Academic Reading Format International Study (ARFIS) is the largest study ever conducted of tertiary students' reading format preferences and behaviors, and has been intimately tied to the European Conference on Information Literacy (ECIL) throughout its formation and development. From 2014-2017, 45 researchers in 33 countries participated in ARFIS, many of whom first connected and networked through attendance at ECIL. As of this writing, Google Scholar shows 21 articles reporting on the amalgamated ARFIS results and the results of individual ARFIS participant countries, nine of which appear in ECIL proceedings. The project has generated much interest from many academic fields. This paper will present highlights from the findings, a list of ARFIS and ARFIS-related publications and researchers, discussions of the current status, and future directions. We will also discuss the impact of ARFIS on future scholarship.

Origin and Development

After Mizrachi's presentation of UCLA undergraduates' reading format preferences and behaviors at ECIL 2014, Serap Kurbanoglu and Joumana Boustany proposed working on a multi-national comparative study. They reached out to colleagues in their professional networks, and 21 scholars in 19 countries participated in the first round of data gathering. The organizers presented a progress report of the project at ECIL 2015 where seven researchers presented results from their individual institutions.

Simultaneously, more scholars asked to join ARFIS. Attendees at ECIL 2016 heard reports from five additional country participants and preliminary amalgamated results. ARFIS researchers held a meeting during a conference break to develop plans for future directions. Some researchers were still collecting data, which was folded into ARFIS Round 2. More country reports were presented at ECIL 2017 and 2018. In May 2018, the ARFIS team published results from over 10,000 students in 21 countries in the prestigious online journal *PLOS One*.

Current Status

Mizrachi and Alicia Salaz compared a sample of English language comments by ARFIS participants who prefer to read in print with comments by those who prefer electronic readings, to investigate the reasons for their preferences, and when they might compromise. The results will be published in *College & Research Libraries (C&RL)* in July 2020. They are also working on publishing the final amalgamated results from all 33 ARFIS countries, another goal for 2020/21.

Reading Event Analysis Model (REAM) and Future Directions

REAM is based on results from ARFIS, other studies, and pedagogical theories as a tool for predicting and influencing reading format behaviors. We know that students do not follow an 'either/or' pattern but that individual behaviors vary by circumstance and context. Linguist Naomi Baron invited Mizrachi and Salaz to join her group of reading scholars and has provided much positive feedback and inspiration. Interface designers and engineers, educators, institutional policy and practice, and national regulatory and economic policies can influence factors that affect behaviors. It is therefore imperative that the model reach as broad an audience as possible.

The authors see this paper as an opportunity to highlight the achievements of the ARFIS project, thank the researchers, and recognize ECIL for its indispensable role in this project.

Keywords: *multi-national studies, print reading, electronic reading*

Older People in the Post-Truth Era: Countering Ageism by Developing Age Friendly Media and Information Literate Cities (#AFMIL)

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This paper proposes a model for developing an Age-Friendly Media and Information Literate (#AFMIL) city as a response to ageing populations and as a counter to populism. In the presentation we will briefly sketch out the background (the rise of populism and the continued evidence of ageism) and proceed to explain our model of the #AFMIL city, which draws on a number of international frameworks and guidelines (Webber & Johnston, 2019). A key explanatory feature of the Post-Truth Era is the growth of national populism as a socio-political force (Eatwell & Goodwin, 2018; European Union Institute for Security Studies, 2019), which uses a variety of information-based strategies (Krasodonski-Jones et al., 2019) to underpin a post-truth politics. Brexit (the United Kingdom's exit from the European Union) and the success of President Trump are key examples of successful populist politics, and the growth of radical right wing parties in Europe. Key populist narratives include questioning the capacity to absorb immigrants; anger at economic inequality and rejection of expert opinion. At base, populism is driven by an ethos of grievance and complaint linked to simplistic sloganizing. Socially divisive tactics such as setting younger and older people against each other are used to advance populist politics and rely on stereotyping, hostility to, and discrimination against older people. Older people are also typically, and paradoxically, portrayed as supporting populist narratives and campaigns such as Brexit. These age-related tactics are commonly referred to as Ageism (European Union Agency for Fundamental Rights, 2018). We argue that descriptors like "post truth", "fake news" etc. are in fact too narrowly focused and need to be located in the wider context of populism. Thus a more complex approach is required involving a focus on a particular group (older people) and specific context (the city) to devise a response to the post-truth strategizing of populism.

To these ends this paper proposes a model for developing an #AFMIL city as a response to ageing populations and a counter to populism. This model draws on UNESCO's framework (2018) for a MIL city and on relevant international handbooks, guidelines and initiatives concerning age-friendly environments, cities for human rights, smart cities, creative cities and informational cities. Our model is centred on older people enacting three roles, as consumers, as represented in the media, and as creators. As consumers of media and information, older people can be empowered to critique populist "fake news". Older people can be engaged in identifying and challenging false representations in the media and elsewhere. In their role as creators, critics and innovators they can be actively involved in developing policies and strategies which will fight against misrepresentation. In summary, age friendly cities reject populist narratives about their inhabitants and provide better environments for all, including better MIL environments.

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Keywords: media and information literacy, populism, older people, policy, cities

Designing a Phenomenological Study on the Information, Scientific and Academic Literacies of Consolidated and New Researchers

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This paper presents the methodological design of a phenomenological research aimed at gaining further insights into:

- a) what it means to be a researcher;
- b) the characteristics, tensions and intersections between the praxis of research (represented by the challenges and requirements of research evaluation) and researchers' subjectivities (ideals, personality, practices, habits, skills, stages of evolution) and how they affect each other; and
- i) the process of training professors as researchers, emphasizing information, scientific and academic literacies' (ISAL) development.

This research is important for developing countries, where we need to increase the number of researchers, their scientific production, and institutions' research competitiveness. This research is divided into four stages:

- i) preliminary interviews with consolidated researchers for designing the data collection instruments and a conceptual model for driving data collection and analysis;
- ii) in-depth interviews with members from the seven disciplines of the Mexican National Researchers System on their experiences as consolidated researchers and trainers of researchers, for generating a training model for new researchers;
- iii) a year-long series of learning interventions to train professors as new researchers, incorporating a living-labs methodology and from an ISAL perspective; and
- iv) two-year monitoring of new researchers' careers, specifically on their institutional and scientific production achievements.

Data collection instruments include:

- a) interviews with consolidated researchers;
- b) three surveys for the professors enrolled in the learning interventions, applied at different stages; and
- c) bibliometric evaluations for the two-year monitoring of professors.

The hermeneutic data analysis projected will be based on categories that emerged from the interviews, the research aims and objectives, and around the presence and development of ISAL in consolidated researchers and in new researchers. Data from new researchers' milestones and achievements will also be incorporated in the analysis.

Keywords: *researchers, phenomenology, informational literacy, research skills*

Personality Traits as Drivers of the Scientific Production: Information, Scientific and Academic Literacies Implications

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This paper analyzes the information, scientific and academic literacies (ISAL) implications that are part of the results' discussion from a larger research that aimed at determining the relationship between professors' personality traits, research output and achievements. The research in which this paper is framed was aimed at determining the personality traits that affect scientific production, characterizing professors' personality traits, their scientific output and achievements, and identifying the most relevant elements to propose a training program for enhancing psychological and ISAL factors. In this quantitative research, we surveyed a representative sample of 120 professors from the Universidad Autónoma de Chihuahua (Mexico) (7% standard error, 95% confidence interval), which was stratified per area of knowledge, by considering the total number of professors in the university as a whole and per Faculty. The survey included demographic questions and 73 items that used a five-point Likert-type scale for participants to rate their personality traits, which were classified under six dimensions:

- a) intrinsic motivation;
- b) extrinsic motivation;
- c) self-esteem;
- d) empathy;
- e) self-regulation; and
- f) prosocial traits.

A richer dataset for the surveyed professors was generated by grouping data from the survey together with Scopus publication data, altmetrics data from Dimensions, and institutional data. Results indicate several tendencies regarding correlations among certain personality traits and professors' scientific output and achievements, as well as various challenges that are related to professors' profiles. From these results, this article analyzes ISAL implications, which will aid in developing the above-mentioned training program, and that we grouped in the following categories:

- a) information and technology use and management;
- b) scientific writing and communication;
- c) collaboration, networks and resources;
- d) skills and habits;
- e) new scientific paradigms; and
- f) research metrics, outputs and achievements.

Keywords: *researchers, information literacy, research skills, personality traits, scientific production*

Embedding Metaliteracy in Learning Design to Advance Metacognitive Thinking: From OER to MOOCs

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Metaliteracy is a comprehensive framework that supports the ethical production and sharing of knowledge in participatory information environments (Mackey & Jacobson, 2014). Embedding metaliteracy in the design of MOOCs and other open resources advances metacognitive learning to support critical inquiry and informed participation. Metaliteracy is especially relevant in a post-truth world that is fraught with misinformation, and breaches of trust by proprietary social media platforms. These challenges to truth and reason require more than discrete skills to prepare learners to effectively learn and contribute to socially constructed spaces. The post-truth world requires a metaliteracy to address these concerns through metacognitive reflection and a deeper understanding of affective responses to information. Metaliteracy is a vital literacy that was initially envisioned to reframe and reinvent outdated definitions of information literacy, such as the ACRL Standards (2000) (Mackey & Jacobson, 2014). It has evolved into a metacognitive literacy that is unique when compared to current constructs of information literacy (CILIP, 2018; ACRL, 2015). Metaliteracy was proposed as a model to inform the recasting of information literacy and influenced the design of the ACRL Framework (Jacobson & Mackey, 2013). The emphasis on metacognition, which is central to metaliteracy, was ultimately diminished in the final draft document, culminating in a clear distinction between the two frameworks (Fulkerson et al., 2017). Comparisons will be made between metaliteracy, the ACRL Framework and the CILIP definition of Information Literacy. Metaliteracy emphasizes the relationship among four domains of metaliterate learning, including the affective, behavioral, cognitive, and metacognitive. When individuals reflect on how they think and feel about information, and associated environments, they are primed to gain critical insights about bias in information sources and in themselves. They also become aware of the deceptive qualities of constructed media and how their emotions may be targeted through manipulated content. Ultimately, metaliterate learners understand how to create and share truthful and trusted information through active roles they identify and develop such as producer, researcher, and teacher, while recognizing their bias and the biases that may be embedded in information sources. The Metaliteracy Learning Collaborative, a research team from Empire State College and The University at Albany from the State University of New York, designed a global MOOC, Empowering Yourself in a Post-Truth World, that embedded metaliteracy through interactive learning objects, dynamic video content, readings and resources, learning objectives adapted from the Metaliteracy Goals and Learning Objectives (Jacobson, et. al, 2018), and a final assignment requiring development of an original digital artifact. Two additional projects based on metaliteracy theory and practice will be described, a robust learning module targeted to first-year college students and a flexible mechanism that might be used in any learning environment to spark reflection on learner roles in a post-truth environment. As part of this interactive session, participants will be asked to determine one idea that they can adapt and incorporate into their teaching. These adaptations will be shared so that they can spark additional implementation ideas for all attendees.

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Keywords: *metaliteracy, post-truth, metacognition, pedagogy, learning design*

Fear of Missing Out, Information Literacy, and Digital Wellbeing

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Frequency and intensity of usage of Internet resources as such do not improve information literacy (e.g., Kennedy & Judd, 2011; Mahmood, 2016). On the contrary – this set of competencies should be acquired also by the so-called digital natives. Moreover, we often observe that Internet users not only cannot use digital information resources properly but also suffer from the consequences of problematic Internet use (PIU). FOMO (fear of missing out) is one of the manifestations of the latter, characterized by the fear of being isolated from communication with others. Therefore, digital wellbeing is mentioned as a status requiring our attention and care (Gui, Fasoli & Carradore, 2017; Medina & Todd, 2018), to decrease the scale of PIU.

Objectives

The study aims to verify if there is a dependency between the level of information literacy and the scale of FOMO intensity among the respondents. Are the high-FOMO people information literate? Does being information literate protect to some extent against the consequences of problematic Internet use, or not? Finally, the question of particular importance: how to empower information literacy education to consider the digital wellbeing of users?

Methodology

The study is based on an analysis of the results of two editions (2018-2019) of the quantitative survey of a national representative sample of Internet users, concerning the FOMO scale in a population (Jupowicz-Ginalska et al., 2018, 2019). The analysis includes only the answers related to FOMO, information literacy, and digital wellbeing.

Outcomes

High-FOMO people possess a high level of information, ICT and media competencies. That means that information literacy as such does not protect against problematic Internet use, on the contrary – sometimes it is a factor contributing to PIU. Therefore, the question arises as to whether or not to include a digital wellbeing perspective in information literacy education – to put more attention on the third component of competencies – next to knowledge and skills – that is, attitudes towards the Internet as an environment of everyday life.

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Keywords: digital literacy, digital wellbeing, fear of missing out, information literacy, problematic internet use

Identifying the Opportunities and Challenges to Black- and African-American Undergraduate Students' Information Literacy

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Problem Statement

Recent scholarship indicates a need for academic librarians to think about persistent racial achievement gaps in American higher education and the ways in which libraries may contribute to or narrow these gaps, particularly in terms of information literacy (Folk, 2019). Existing library and information science (LIS) research from the United States, primarily relying on surveys, has provided some insight into how students of color use libraries and library resources. Although some attention has been given to the ways in which Black- and African-American students use libraries, no attention has been given to the challenges and opportunities this student population face in developing their information literacy. This is troubling given arguments related to the sociocultural nature of information literacy, including its development and enactment (e.g. Elmborg, 2006; Lloyd, 2012).

Purpose

In this paper, we combine findings from two different qualitative studies - one exploring the library experiences of Black- and African-American college students and one about first-generation college students' experiences with research assignments - to identify potential opportunities and challenges related to Black- and African-American students' information literacy. We intend for this paper to be a call to action for rigorous research to be conducted with Black- and African-American students, as well as other student populations who have been traditionally marginalized in educational settings.

Method

Both studies used phenomenological interviewing (Seidman, 2013) to develop semi-structured protocols that were used to interview students from three campuses of two different predominantly white institutions. In both studies, researchers used Dedoose to code the interview transcripts and identify patterns and themes in the data.

Findings

Study participants were heavy users of their public libraries, especially when they were young. As they got older, they had limited interactions with librarians, and most were not aware of the role(s) that librarians could play in their academic success. In terms of research assignments, Black- and African-American students reported that these assignments were meaningful when they had the opportunity to explore and share their identities and lived experiences, which encouraged the use of critical thinking skills related to information literacy. Conclusions include the importance of incorporating the identities and lived experiences of this student population into their academic work to engage them and develop their information literacy skills, and the potential role that implicit bias could play in interacting with and getting support from white librarians as students interact with information for their personal and academic lives.

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Keywords: African-American students, undergraduate students, research assignments, academic libraries, qualitative research, phenomenology, information literacy and inclusive education

Copyright Literacy of Cultural Heritage Workers in the Czech Republic with a Focus on Librarians

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Research Background

By definition, cultural heritage should be made available to as many people as possible. Information technologies add new advantages to this field (Morrison & Secker, 2015). But at the same time, there are limits in work with cultural heritage, especially under intellectual privacy law. These two sides of work with cultural heritage create challenges for librarians, museologists, archivists, gallerists and other workers in cultural heritage institutions. They must have a sufficient level of copyright literacy to deal with them well. It “include[s] identifying copyright-protected materials, navigating fair use and fair dealing, obtaining permissions and licenses where necessary, and recognising infringement of copyright law.” (Harris, 2017) New documents such as the IFLA Statement on Copyright Education and Copyright Literacy (IFLA, 2018) confirm the increasing importance of copyright literacy not only for librarians. An international research group initiated by Tania Todorova (Bulgaria) described opinions and competencies of librarians and other cultural heritage workers in copyright literacy in thirteen countries (Todorova et al., 2017).

Objectives and Methodology

This survey was focused on the knowledge and opinions of cultural heritage workers, especially librarians, in copyright literacy in the Czech Republic. The research followed the methodology of a multinational survey designed by Todorova et al. (2017). Therefore, we can compare Czech results internationally. They can serve not only to describe the situation, but also, they should be reflected in the improvement of services of cultural heritage institutions and further education of their workers.

Data collection took place via an online questionnaire in Google Forms between 16th November and 18th December 2019. Four gatekeepers from the management of national professional organizations distributed the questionnaire link using their internal mailing lists. We received 313 responses covering all types of institutions (approximately two-thirds from librarians).

Outcomes

Respondents evaluate their copyright literacy rather positively. They feel the most comfortable in licensing conditions in their institution followed by copyright and related law and copyright-related institutions - both topics only on the national level. When they need answers about copyright, they use web pages most often (77.6%). Almost half of the respondents had some knowledge shortcomings in exceptions in copyright for cultural heritage institutions. 74.3% think that institutional copyright policy is necessary but only 22.4% of institutions have dedicated workers specialised in copyright. The majority of respondents think that copyright literacy education is necessary both at the university level and in further professional education.

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Keywords: *cultural heritage institutions, information literacy, copyright literacy, research, Czech Republic*

Digital Literacy Competencies and Interests of Elderly People

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This paper deals with the topic of the secondary digital divide of elderly people. Digital skills are the primary requirement to carry out various online activities. These skills could make life easier and can help to acquire many positive results from using the Internet (van Deursen, 2018). Today's technology boom and its penetration into all life spheres place demands on elderly people to avoid digital exclusion and to take full advantage of the benefits that the Internet and ICT offer. Some surveys emphasize the social point of view of this topic (Wu, 2015; van Dijk, 2012) and they recommend observing how different social groups work with the Internet and technology in general. Qualitative research on the needs of Czech seniors in work with the Internet has already been published (Zadražilová, 2017).

The presented research aimed to describe the digital literacy of seniors and their learning interests in topics related to the Internet and ICT. The main research questions were: What is the perceived level of seniors' competences in digital literacy? In which digital literacy topics do seniors prefer to be educated? We compared answers of elderly people according to their age and previous education in digital literacy.

To focus on the secondary digital divide of elderly people, we limited our study on people age 65+, and active work with the Internet and Czech citizenship. The link for the online questionnaire was circulated by a snowball sampling, with the help of libraries and nonprofit organizations focused on elderly people, between 17th January and 7th February 2018. We received 758 responses. We analysed the data quantitatively using IBM SPSS Statistics.

Elderly people declare a relatively high degree of digital literacy by self-evaluation and self-confidence in everyday internet activities. We did not test real competencies because of the attitude of seniors (they declared they would not respond to this form of a survey in interviews in the previous phase of research). At the same time, seniors were generally very interested in information literacy education through various types of informal institutions, such as libraries. They were more often interested in topics related to content (the most common interests were working with photos, quality of information, and risks of working with information) than to using software or online application (the least common interest was in PowerPoint and Excel). We also supposed that younger seniors achieve a higher level of digital competencies than the older ones. But we found the opposite dependence ($r = 0,2$, correlation is significant at the 0.01 level). The Kruskal-Wallis test proved statistical differences in digital literacy according to previous education ($H = 23.795$, $df = 2$, $p = 0.000$) with benefits of help by someone else. The best results were for respondents educated by someone else (mean 181.93), followed by respondents taught about the internet by someone, but self-educated about computer use (mean 177.16) and strictly self-educated (mean 125.71).

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Keywords: seniors, digital divide, education, digital literacy, research

Information Literacy of University Students and its Improvement by a Campus-Wide Course Comparison of Czech Private and Public University

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Information literate students have an advantage in their academic and personal life in the information society (Shao & Purpur, 2016). Research evaluating the level of information literacy (IL) of university students is quite common in different countries. Landová et al. (2016) mapped the situation in the Czech Republic, but their research is limited to public universities. Kovářová (2018) published an analysis of the IL level of students at the Masaryk University (public) and its improvement by a campus-wide course. But research comparing IL of students of public and private universities is missing. We applied original research of Kovářová (2018) to a private Ambis University. The first goal of this survey was to reveal the level of IL of students in the private university through a self-evaluation and test (objective evaluation). The campus-wide IL course could improve this level. We can find similar courses at both universities with two crucial differences. The course is optional and purely online at the Masaryk University (after this MU) but compulsory and blended at Ambis. The second goal was to identify changes in the competencies of students after the semester course by comparing the pretest and post-test results. The paper focuses on the new information about the IL of students of a private university and comparison with already published results from the public university. Online questionnaires collected data in the autumn semester 2019 at the Ambis (compared to autumn semesters in 2016 and 2017 at MU). We distributed each test to all students enrolled in the courses at the time of data collection. We used a similar questionnaire as a pretest in the original research (Kovářová, 2018); only a few questions were slightly modified to reflect differences at Ambis. We got 1168 pretest responses and compare them with 1287 pretest responses and 550 posttest responses from MU. T-tests will verify differences in pretests and post-tests and the private and public university. Preliminary results of pretests showed some similarities and differences both in self-evaluation and objective evaluation of student between universities. At both, students self-evaluated their internet search competencies as the best and searching in databases as the worst. At the opposite ends of the self-evaluation scale at universities, there are topics of sharing and cooperation (better rated at Ambis) and formal processing of their own text (better rated at MU). Students of MU self-evaluated their competencies generally better, but students of Ambis received higher pretest results. Students of Ambis had the most number of wrong answers (gradually) in narrowing topic, Creative Commons licences and types of graphs, on the contrary, they had the most correct answers in backup tools, visualisation and choosing an appropriate resource. Students of MU had the most problems with library services, Creative Commons licences and visualisation. They had the least problems then with choosing appropriate resources, social networks and orientation in a document.

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Keywords: *information literacy, public university, private university, research, Czech Republic*

The Role of Information Literacy in the Creative Economy

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The constant increases in digital information consumed also imply in a rise in the complexity of information literacy skills required in contemporary society. For the industrial segments that are part of the creative economy, there is an additional intricacy to studies in the areas of information literacy. These industries are used to the uncertainties of a market, whose production does not always correspond to the existing demand, unconventional models of work regimes, and the abiding presence of precariousness instigated by the seasonality of their activities. In addition, the digital transformation in society and how creative professionals deal with the impact of the digitalisation on their work processes creates new challenges too. Therefore, information literacy of these professionals has increasingly become fundamental and can be addressed from different perspectives. First, much of the content displayed in digital environments is the result of creative work (Banks & Deuze, 2009). Second, creative workers demonstrate strong abilities in using digital tools for producing, disseminating and monetising their work (Van Laar et al., 2019). Thirdly, because creative work is directly related to the exploitation of individual creativity and intellectual property, it is deeply impacted by copyright issues on digital platforms (Katz, 2013).

This paper aims to contribute to information literacy research by answering “*how do creative workers apply their information literacy skills to gain the needed information in the digital environments?*”. In particular, we investigate the role of information literacy skills of creative workers in finding and applying information that is relevant for the existence and continuity of their businesses. The issues addressed here are the self-reflection of freelancers and micro-entrepreneurs on their information literacy skills, the importance of digital information as an enabler of their activities in their use of creative online communities, and their understanding of copyright law within digital environments.

This study presents the results of 40 semi-structured interviews conducted with creative professionals working as designers, art directors, illustrators, animation directors, photographers, and digital artists. The respondents are located in 18 different countries across the European, Asian, and North American continent. A thematic textual analysis was performed using a qualitative analytical software (Nvivo), in which the transcripts of the interviews were coded and organised in different themes. The results confirm the prominent role of information literacy skills in locating relevant information for their businesses when using digital tools and social networking platforms. A point to be highlighted in the analysis is that despite being located in distinct geographical areas, some beliefs were shared by the majority of the respondents. For example, most of the interviewees reveal the opinion that the high exposure of their work in social networks has no negative impact on their business, even when more than half of them claimed to have had their digital work plagiarised by others. Or the belief that copyright laws are insufficient or impossible to fully apply when it comes to digital data, while most of them admitted having little or no knowledge of copyright laws. Furthermore, the results show that creative workers deal with numerous issues when handling digital information, from market risks to the vast volume of information required in creative activities, thus, reinforcing the importance of information literacy skills in their work process and routines.

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Keywords: *creative economy, information literacy, digital information literacy, information behaviour, social networking platform*

Information Literacy through the Epistemic Cultures Perspective: Conception - Implementation - Effectiveness

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International studies show that understanding of information and information practices fundamentally differs in the various scientific disciplines (Connaway & Dickey, 2009; Hiller, 2002). Correspondingly, the usefulness of promoting information literacy according to uniform standards and mediation concepts is questionable. As an alternative, this work presents a framework of information literacy focused on epistemic cultures, in the sense of scientific “cultures of knowledge” with specific scholarly practices and information literacy demands (Knorr-Cetina & Reichmann, 2015; Michel & Tappenbeck, 2019). To provide individual and relevant support and trainings we need to better understand these cultures of knowledge with their expectations, requirements and needs. The authors present findings from different approaches to study and characterize discipline-specific information practice and information literacy demands. While the analysis of academic curricula and publication practices only partly revealed domain-specific aspects, in-depth interviews with researchers appear to provide promising insights into the subject itself, research methods and research data, communication and publication practices as well as knowledge transfer. Based on preliminary results, concrete examples and consequences for the practical application and implementation in the promotion of information literacy will be further discussed. The paper concludes with considerations on evaluation approaches regarding the effectiveness of the presented concept in comparison to conventional concepts of information literacy training.

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Keywords: *information didactics, information literacy, epistemic cultures*

The Information Literacy of Food and Activity Tracking in 3 Communities: Parkrunners, People with Type 2 Diabetes and People with Irritable Bowel Syndrome

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The focus of this paper is on the role and nature of information literacy needed in this landscape to achieve health goals safely and effectively (McKinney, Cox, & Sbaffi, 2019). We report on research that aimed to discover the self-tracking practices of people in three communities: people with type 2 diabetes, people with Irritable Bowel Syndrome (IBS) and people who run for leisure with the parkrun organisation. Research has shown that use of mobile apps and fitness devices can motivate people to adopt healthy behaviours e.g. a healthy diet, increased physical activity and weight loss (Ernsting et al., 2017). However, it is acknowledged that tracking practices can be challenging, they are time consuming, and users experience issues to do with both entering accurate information into the apps, and in interpreting the information gained from apps (Dennison et al. 2013). Sharing of tracked information is socially nuanced, but many people have little awareness of issues to do with the privacy of their information, and how it might be shared with 3rd parties (Cox, McKinney, & Goodale, 2017). In this research study, an online questionnaire was distributed to members of the three communities in early 2018: members of parkrun (143 responses), members of the IBS Network charity (45 responses) and members of the Diabetes.co.uk online community (140 responses). The data showed that there were clear differences in the tracking practices of the members of the three communities, and differences in motivations for tracking. Drawing on Lloyd's (2017) theory of information literacy landscapes, the exploration of information literacy is centred around four interrelated areas:

- 1) Understanding the importance of quality in data inputs;
- 2) Ability to interpret tracking information outputs in the context of the limitations of the technology;
- 3) Awareness of data privacy and ownership;
- 4) Appropriate management of information sharing.

These four areas are explored for each of the participant communities, and the distinctive nature of tracking for each community is presented. For example, parkrunners used the most varied range of apps and devices of any group, and were most likely to monitor long-term trends in their activity. Type 2 diabetes respondents made the greatest use of manual tracking practices e.g. using spreadsheets, and viewed tracking as a way to help control their disease. IBS respondents were most likely to track mood, and were most sceptical about the quality of information gathered from apps. Commonalities across participant groups include a strong awareness of the importance of data quality, and few concerns about the potential re-use of their data. Implications for the support of information literacy development in everyday life are presented.

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Keywords: health literacy, self-tracking, mobile apps, type 2 diabetes, irritable bowel syndrome, running

A Mapping Literature Review on Teaching Faculty - Librarian Collaboration in Higher Education

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In the context of a recent massive educational reform, college and university libraries have been involved in contributing to the reform so that information literacy instruction could be an integral component of higher educational systems. In the process, building teaching faculty-librarian collaboration has been recognised as an important factor contributing to the success of information literacy instruction (Julien et al., 2009; Fazal, 2016). In parallel with building collaboration practices between teaching faculty and librarians in various information literacy settings, researchers in library and information science and academic librarians have studied this phenomenon. Building teaching faculty-librarian collaboration in higher education was already advocated in the late nineteenth century (Hernon, 1982). In library and information science literature, Knapp's action research conducted in the 1960s is recognised as the first study on this phenomenon (Howe, 2011). Although teaching faculty-librarian collaboration in higher education has been studied since, few studies have presented an overview. Due to diversified approaches to this phenomenon, previous studies have not cited each other actively and a holistic understanding of the studies is lacking (Nagasawa, 2017). This paper aims to present an overview of what and how library and information science literature has researched this phenomenon. A mapping literature review was undertaken (Paré et al., 2017) with a qualitative thematic analysis approach being conducted. As for data collection, relevant studies were identified from a search of Library, Information Science & Technology Abstract (LISTA) as a database of library and information science. A query of SU "academic libraries & faculty" OR ((SU "information literacy" OR SU "user education") AND ((SU "academic librarians" OR SU "universities & colleges") OR SU "librarian-teacher cooperation" OR SU "embedded librarians" OR (SU "information sharing" OR SU "knowledge transfer" OR SU "communication") OR (KW "interpersonal" OR KW "interprofessional" OR KW "liaison")))) was imposed. In addition, 'academic journal' as publication type, 'English' as language and 'scholarly (peer reviewed) journal' were queried. Further studies were searched manually based on browsing titles, and abstracts, if necessary, of studies in peer-reviewed journals in library and information science published from 2000 to 2019. The selection criteria were: 1) focus on teaching faculty-librarian collaboration in the same institution, 2) collaboration in education not in research, 3) written in English, and 4) not practical reports. The database search produced 127 references, and based on their titles and abstracts sixteen relevant studies were identified. The manual search identified eleven relevant references. As for data analysis, inductive thematic analysis was applied. To analyse findings in results sections, groups of semantic themes based on coding data were categorised and organised (Braun et al., 2006). As a result, three broad themes emerged from the inductive thematic analysis of the results sections of the included studies: 1) librarians' strategic approaches, 2) intervening conditions, and 3) building the collaboration process. Furthermore, most of these studies adopted qualitative approaches such as content analysis, literature reviews and case studies (Julien et al., 2009; Phelps et al., 2012; Pham, 2019).

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Keywords: teaching faculty-librarian collaboration, IL instruction, higher education, thematic analysis

Navigating Institutional Histories: A Typology for Graduate Researchers to Differentiate Genres and Determine Historical Veracity

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Objective

The *Framework for Information Literacy for Higher Education* (ACRL, 2015) emphasizes the authority assigned to information as “a type of influence recognized or exerted within a community.” For graduate students using American college and university institutional histories to investigate the history of higher education, this requires identifying the historiographic value of a given institutional history. This research presents an effective typology to assist novice researchers in evaluating the relative historiographic veracity of institutional histories.

While institutional histories are important information resources for researching the history of higher education, the nature of such documents requires thorough examination to establish their authority within the context of graduate research. Often institutionally sponsored, these histories may be biased towards narratives of the administration that commissioned them (Gardner, 1976). Graduate students studying the history of higher education often find a plethora of histories dedicated to a single college or university—but struggle to determine their historical veracity. Graduate students must account for a history’s provenance, vis-à-vis the author’s or the institution’s intent. This typology provides a framework to enable graduate researchers to navigate the use of institutional histories in their studies.

Methodology

An examination of publishing practices may shed light on constructions of authority within specific disciplinary communities (Hérubel & Maybee, 2018). An analysis of published institutional histories from a large-scale bibliographic project (Hérubel, 2019) informed the creation of the typology presented in the paper. The data derived from the bibliographic project provides illustrative examples of different kinds of institutional histories, such as university presses, administrations, private publishers, etc. Publisher and publishing practice for institutional histories exemplify degrees of historical veracity associated with different institutional histories.

Result

Using this typology offers graduate students a template by which they can effectively assess an institutional history’s historiographic and historical content. Additionally, this historiographic tool further explicates the historiographic bias that graduate students need to navigate to critically evaluate and determine the authority of primary historical sources.

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Keywords: *higher education, historiography, institutional histories, typology*

How do People Help Each Other with Digital Technologies: TechHelp Study in the Czech Republic

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Introduction

Digital technology is transforming the way we communicate, work, learn and live, but around 40% of the European population aged 16 – 74 years still lack basic digital skills (Eurostat, 2019). Statistical and quantitative data about digital technologies use exist both at the national level and for various social groups, but qualitative data on different aspects of digital technology competences and also knowledge transfer is lacking. Global TechHelp Networks is an international study coordinated by the University of Illinois with participants from the United States, China, Norway, and other countries including the Czech Republic. It focuses on two main outcomes: the first goal is to find out the ways people help each other with digital technologies in different countries and cultural settings, and the second goal is to prove the feasibility of such a large scale study that includes both faculty and students as researchers (Williams-McWorter et al., 2019). In our article we focus on the first goal, and we present the results of the Czech study.

Methods

The study was carried out using structured interviews. The research instrument, which was originally created by US and Chinese collaborators, was translated into Czech. The questions ask participants to describe situations when the research participant was either receiving or providing help with some kind of digital technology. Participants were also asked to reflect on the evolution of how they used technologies. The data was collected by a group of students using the snowball sampling method. We collected responses from 20 research participants. The transcripts were entered into the ATLAS.ti program and coded using the open coding method.

Results

Czech research participants generally feel that they have enough support with digital technologies. When they need help, they seek it from their friends or family, but they usually also have some other person with IT knowledge within reach. Some participants expressed a need to keep their interaction with technologies under control.

Conclusion

The TechHelp study is an important first step in the development of knowledge in the field of “community informatics” (Williams, 2012) in the Czech Republic. This paper contributes qualitative data that will help to clarify how people help each other with digital technologies, which can ultimately lead to the establishment of improved support for developing digital literacy at an informal level.

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Keywords: digital literacy, digital technologies, help seeking, helping relationship

Visual Literacy Development through Infographics

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Infographics are purposively designed sets of illustrations, texts, images and data visualizations to tell a complete story (Krum, 2013). Being 30 times more likely read than text (Long, 2014), they have become very popular in many fields, including higher education. While in education, two main directions are towards more active learning methods and creation of more diverse learning artefacts (Cope & Kalantzis, 2017), the integration of infographics might serve both purposes. What educators may lack are either technological solutions for the creation infographics or educational ideas for their use in formal education. Responding to this, the current study explored both technological tools for the creation of infographics and educational practices of using of them in higher education. The objectives were: i) to explore freely available infographic tools, and ii) to disclose educational practices including the use of infographics across a variety of disciplines. The authors applied both the scoping review (Levac et al., 2010) of scholarly literature and additionally reviewed freely available web-based platforms for the creation of infographics.

The results showed that there is a great diversity of web-based tools for the creation of infographics. While the first group of tools is primarily designed for the creation of infographics (e.g., *Zanifesto*, *Adioma*, *VisualizeMe*, *Vennage* and *Easel.ly*), the second group of tools allows a wider range of visualization forms (e.g., *Draw.io*, *Genially*, *Visme*, *Creately*, *Canva*, *Piktochart*, *Infogram* and *Kinzaa*). In many cases, the use of such tools for data visualization does not require any prior training, as the process of making an infographic is semi-automated. They provide pre-designed and visually attractive templates, thus making the development of visual literacy enjoyable by students. On the other hand, the infographic tools require considerable amount of cognitive efforts while dealing with textual information. The third group of infographic making tools are universal graphic editing tools (e.g., *Adobe Illustrator*, *Paint.NET*, *Adobe Photoshop*, *Google Drawings* and *Google Charts*). Moreover, the review of the empirical studies including the use of infographics revealed that educational practices range from a simple immersion into a single assignment of creating an infographic, to iterative learning during the same course so that students get enough development of visual literacy through the creation of this visual form. The study illustrates the efficacy of infographics not only in developing visual literacy but also in enhancing overall student learning and satisfaction in higher education. The proposed technological solutions and educational recommendations may simplify the design of university learning and teaching practices and encourage future research into this area.

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Keywords: *higher education, infographics, infographic tools, information visualization, visual literacy*

How Playful are Serious Games? Measuring Gamefulness and Playfulness in Information Literacy Games

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Objectives

The paper deals with the playfulness of serious games for information literacy training in a higher education context. The major questions are: do we need more playful games and how can this be achieved? With regard to the concepts of playfulness / gamefulness Roger Caillois presents two opposite sides of a spectrum: Paidia (or playing; for pure joy, without any goals) and Ludus (or gaming; based on rules and competition). According to him the games can be at either end or somewhere in the middle (Caillois, 1962). We have a hypothesis that the serious games in information literacy can never be only playful but if they contain a higher level of playfulness the students will more easily achieve the learning objectives.

Methodology and Results

In the current research we rely on the preliminary findings of NAVIGATE – Information Literacy: A Game-based Learning Approach for Avoiding Fake Content (09/2017-12/2020), a project funded by the Erasmus+ program under Key Activity 2 - Strategic partnership supporting innovation. NAVIGATE (<https://navigateproject.eu>) aims at enhancing students' learning using serious games that can support the improvement of Information Literacy competencies. The project is focused on Higher Education students in the Humanities and Social Sciences as major targets. In the framework of NAVIGATE 70 games used for teaching information literacy in academic libraries and programs were identified and evaluated (Menon et. al., 2018). The top 20 games for information literacy have been ranked according to the following criteria: Playability, Lastability, Engagement, User Interface, and Storytelling. A radar diagram and an interactive database (<https://www.navigateproject.eu/navigamesearch-tool/>) were developed in order to visualize the list and categories.

We also demonstrate the results of an analysis of the playfulness / gamefulness of 20 information literacy games according to the Playful Experiences (PLEX) framework encompassing criteria such as: Captivation, Challenge, Competition, Control, Discovery, Exploration, Expression, Fantasy, Fellowship, Humour, Nurture, Relaxation, Sensation, Simulation, Sympathy, Thrill (Lucero et. al., 2013). The difference between Play and Game is clarified and the criteria for measuring playfulness and gamefulness are set considering the specifics of information literacy games. This approach can be replicated by teachers and librarians who are interested in selecting or developing playful games for teaching information literacy in universities and academic libraries.

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Keywords: NAVIGATE project, information literacy games, playfulness, gamefulness, higher education

An Exploratory Study of the Relationship Between Individual Cognitive Factors and Information Literacy Ability in College Students

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To effectively teach information literacy (IL) skills, it is important to understand how an individual's epistemic motivation influences their decision making, learning, and information processing (Faber & Benson, 2017; Kruglanski & Sheveland, 2013). Epistemic motivation is the desire to think deeply in order to gain knowledge and understand the world (Amit & Sagiv, 2013; Faber & Benson, 2017). People with higher epistemic motivation are internally stimulated to search for and process information. People lower in epistemic motivation do not enjoy effortful thought processes and tend to search for and process less information. Epistemic motivation can be understood from a developmental theoretical framework which suggests that personal epistemic beliefs develop across stages as an individual moves through life, beginning with a belief that knowledge is absolute and knowable, moving to an awareness that knowledge holds some uncertainty and that personal judgment informs knowledge claims, to a recognition that knowledge claims are relative, constructed, and more or less approximations of reality (Barzilai & Zohar, 2014; King & Kitchener, 2002). Various cognitive dispositions have been used to assess aspects of epistemic motivation including *Need for Cognitive Closure*, *Need for Cognition*, *Openness to Experience*, and *Actively Open-Minded Thinking* (Amit & Sagiv, 2013; Faber & Benson, 2017; Svedholm-Häkkinen & Lindeman, 2018). This research project explores the relationships among these dimensions of epistemic motivation and examines their predictive influence on IL ability in a sample of college students. The underlying hypothesis is that students with greater levels of epistemic motivation will have greater IL. Survey data are currently being collected from a sample of undergraduate students (n=85). The survey measures these dimensions of epistemic motivation using existing, validated scales, and also tests students' IL knowledge and skills. Regression analyses will be carried out to understand the relationships across these cognitive dispositions and their unique and collective contribution to students' IL test scores.

The results of this line of inquiry will help academic librarians understand what cognitive challenges students may face in understanding the foundational ideas of information literacy. For example, many libraries now teach the Association of College and Research Libraries' Framework for Information Literacy (2015) which includes such frames as *Authority is Constructed and Contextual*, and *Scholarship as Conversation*. These IL concepts require a sophisticated understanding of the nature of knowledge and knowing which may exceed students' cognitive development during their first four years of college. The results from this study can help librarians enhance their IL instruction by aligning instructional content with characteristics of students' cognitive development. Further, the findings can inform IL instruction that helps students recognize their own epistemological positions and build new understandings as they advance to subsequent stages of cognitive development.

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Keywords: *epistemic motivation, cognition, information literacy instruction, academic libraries*

Perceived Hindrances to Health Information

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Objectives

The aim of the study is to investigate perceived hindrances to health information among Icelanders who are 18 years or older. People's potential for lifelong learning and informed decisions making about their health is a crucial issue. The enhancement of media and information literacy is important in this regard (UNESCO, 2014). It has been generally recognized as a significant factor for lifelong learning about health. Yet, there are still a number of unanswered questions about the barriers to health information that people experience, which may have impact on their health behaviour as well as their possibilities to improve their information literacy. To explore this the paper will seek answers to the following research question: What hinderances do different groups of Icelanders experience in relation to health information?

Methodology

This is a quantitative study. Data were gathered from November 2018 to January 2019, from two random samples using an internet and a telephone survey. The total sample for the survey consisted of 1,800 people, 18 years and older, from the whole country. For the telephone survey, a sample of 300 people aged 60 years and older from the whole country, randomly selected from the National Register of Persons in Iceland, was used. For the internet survey a random sample of 1,500 people at the age of 18 to 59 years, from the Social Science Research Institute at the University of Iceland net panel, was used. The net panel consists of people aged 18 years or older from the whole country. The choice of participants in the net panel follows strict methodological rules to avoid convenience sampling. The net panel is updated regularly to ensure that it corresponds with the distribution in the population, regarding sex, age and residence. Both datasets were merged, allowing answers from all individuals belonging to each set of data. The total response rate was 39%. Because of the response rate the data were weighed by gender, age, place of residence and education so that it corresponds with the distribution in the population. In addition to background questions, the measurement instrument consisted of a total of 25 questions. The focus of the paper will be on 15 of the questions, which are all in the form of statements, that asked about perceived hindrances in relation to health information. Three of the statements refer to obstacles that people face in relation to the situation that people live in (hindrances in relation to time and finances, difficulties to get away from home to seek information). The other 12 statements refer to challenges in relation to people's attitudes and cognitive aspects. Each statement had a 5-point response scale (Strongly disagree – Disagree – Neither agree nor disagree – Agree – Strongly agree). The analysis of the data with SPSS is still ongoing. The aim is to presents results from the analysis in relation to the participants' education, sex and age.

Outcomes

The Prague Declaration (2003) describes the ability to make effective use of the information environment to enhance one's knowledge throughout life as basic human right of lifelong learning. The purpose of addressing this issue is to understand better the challenges faced by people at gaining knowledge about their health. Recognition of the hindrances that people perceive regarding their health information is critical in order to increase the efficiency of disseminating health information and to improve people's possibilities to benefit from the information environment.

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Keywords: *health information, information barriers, lifelong learning, media and information literacy*

Quality of Health Information: How does Age, Sex and Education Associate with the Assessment of the Reliability and Usefulness of Health Information

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Objectives

Access to quality health information, appropriate to people's needs regarding content and which can be sought through their preferred information channels, is of significance for them to improve their knowledge about healthy living. It has been recognized as a significant factor for lifelong learning about health and to enhance aspects of their information literacy (IFLA, 2014). Knowledge about health is increasingly being disseminated through digital sources. The present study, however, aims at gaining a more comprehensive picture by exploring how people evaluate the quality of health information within a broader network of sources and channels. To investigate this, the study will address the following research question: How does age, sex and education impact how people assess the reliability and usefulness of information in various information sources and channels?

Methodology

This is a quantitative study. Data were gathered from November 2018 to January 2019, from two random samples using an internet and a telephone survey. The total sample for the survey consisted of 1,800 people, 18 years and older, from the whole country. For the telephone survey, a sample of 300 people aged 60 years and older from the whole country, randomly selected from the National Register of Persons in Iceland, was used. For the internet survey a random sample of 1,500 people at the age of 18 to 59 years, from the Social Science Research Institute at the University of Iceland net panel, was used. The net panel consists of people aged 18 years or older from the whole country. The choice of participants in the net panel follows strict methodological rules to avoid convenience sampling. The net panel is updated regularly to ensure that it corresponds with the distribution in the population, regarding sex, age and residence. Both datasets were merged, allowing answers from all individuals belonging to each set of data. The total response rate was 39% (N= 698). Because of the response rate, the data were weighed by gender, age, place of residence and education, so that it corresponds with the distribution in the population. In addition to background questions, the measurement instrument consisted of a total of 25 questions. The paper will focus on results about the evaluation of the reliability and usefulness of health information in a total of 25 information sources which are categorized into four channels: Media, Health specialists, Internet, and Relatives and friends. The analysis of the data is ongoing, the aim is to presents results from the analysis in relation to the participants' education, sex and age.

Outcomes

An overview of how people evaluate the quality of information within a broad network of information sources is essential for the design of better education procedures, which are built on realistic goals and expectations. The findings may therefore provide important knowledge about how people can be reached with health information and provided with knowledge and support that is likely to enhance their abilities to adopting healthier lifestyles.

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Keywords: *health information, information quality, lifelong learning, media and information literacy*

Ecological and Ethical Contexts of Digital Literacy in the Light of Phenomenographic Studies

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The purpose of the paper is to explore new contexts of the concept of digital literacy using results of phenomenographic studies. The concept of digital literacy was determined by many authors and projects (e.g., Bawden & Robinson 2012, Julien 2015, Spante et al. 2018, IFLA). Originally, it was regarded as an ability to understand information in different formats presented by computers. Phenomenographic studies of information literacy emphasized sociocultural practices and experience in information use (e.g., Limberg et al. 2012, Bruce, 2016). Following these studies, we framed contexts of digital literacy in ecological and ethical factors of digital information. We suppose that phenomenography can suggest new dimensions of digital literacy related to information ecology and ethics in education and workplaces. We ask the question: How can we rethink the concept of digital literacy based on results of phenomenographic studies?

Methodology

A qualitative design of phenomenographic studies was applied and a meta-analysis of three case studies based on two dissertation theses and one research project in Slovakia. The topics include information literacy of university students (a survey, interviews, 281 and 40 students) (Fázik, 2019), information ethics (interviews, 25 students) (Nováková, 2018) and information behavior of researchers in information ecologies (interviews, 19 experts) (Steinerová, 2018).

Findings & Conclusions

The first study interpreted experience in information literacy by the concepts of digital technologies, knowledge, and the truth, visualized in an ecological-environmental model. The study of depersonalization of a moral agent in digital environment described an outcome space composed of psychological factors, the concepts of information environment, information ethics, the social and the situational concepts. The study of researchers disclosed the critical and constructive discourses, the inclusion of digital information in information ecologies and strong internal motivation. We identified common ecological factors of the studies, namely emotions, responsibility, and values of information.

We derived ecological and ethical factors of digital literacy, such as values of digital information and tools, emotions, trust, information sharing and interactions. A new interpretation of digital literacy points to social representations and sociocultural practices of experiencing digital information. Social and ethical awareness of digital resources, ecological adaptations, responsibility, emotions and truth are emphasized. Recommendations for digital literacy trainings include support of ethical awareness, digital creativity, collaboration, digital safety, and verification of digital information.

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Keywords: digital literacy, phenomenographic studies, information ecologies, information ethics

Investigating Information Seeking Process Using Think-Aloud Protocol of Students Living in Rural Areas

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Nowadays, students are actively using the web as an information source. Especially for school assignments, they resort to the web primarily. However, searching for the web may not be easy for rural students with limited access to the Internet. Studies show that, there is a gap between rural and urban students in terms of their computer and information literacy skills (Mirazchiyski & Klemencic, 2018). This skill gap brings about proficiency gap in understandings of knowledge between rural and urban students (Chen & Liu, 2013). In the information seeking process, besides the act of seeking, feelings and thoughts about this process are also important (Kuhlthau, 1991). The think-aloud is a concurrent verbal reporting technique to verbalize the ideas and bring thoughts into consciousness while problem solving (Branch, 2000). The method also enables us to examine the information search process from different perspectives. Branch (2000) used the think-aloud method to reveal the information seeking processes of 12-15 year-old students and she acquired useful data about the behavioral, cognitive and affective aspects of the process.

In this study, we investigated how students in a rural middle-school searched for online information towards their school assignments, and we employed the think-aloud protocol to reveal students' information seeking processes. In this study, students were given three search tasks that they used in their school assignments, and they were asked to search the web for the tasks. Search tasks are designed in three difficulty levels: easy, medium and difficult, and the tasks allow the student to interact with the web enough. Search tasks were designed with teachers regarding their course assignments. To obtain data from web search of each of the student, we used screen-capture software and we collected audio and video records. Recordings were subsequently transcribed and analyzed. The consequent analysis of the data looked into the task completion time, number of steps and status of success at solving each task. It also reported difficulties experienced when searching, and their thoughts and feelings during the search. We also applied a brief questionnaire about demographics and facilities of information access of students. The data collection phase of the study is ongoing. Results of this study are expected to shed light on rural students' information seeking processes and also detect their shortcomings about access to information in terms of technical and skill-based manner.

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Keywords: rural area students, information seeking, think-aloud protocol

Knowledge-Creating Interaction and Information Literacy in Organizations – An Empirical Study in the Context of Research and Development Project

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The aim of this study is to contribute to the understanding of Information Literacy (IL) in relation to knowledge creation in the organizational settings. The processes and practices used to succeed in work tasks, especially when seeking new solutions or solving specific problems, are often related to the seeking, sharing and using information. In these processes, new knowledge is created. Hence, there is a need to increase understanding of the role of IL in these processes. In recent years, IL at workplaces has been increasingly examined (Ahmad et al., 2019). However, the role of information literacy in the knowledge creation processes needs methodological and empirical examination, which takes into account the interactive and practice-based dimension of the phenomena.

In this study, IL is understood as a practice realized in the course of action, emphasizing the social and interactive aspects of the phenomenon (Lloyd, 2012). Knowledge creation is conceptualized as a process, where people share their know-how, knowledge and information to jointly create something new, processes or products in the everyday situations or in organized discussions, such as meetings or workshops (Nonaka & Takeuchi, 1995; Tsoukas, 2009). Both knowledge creation and IL are often examined on a macro level, whereas the actual events of interaction and their examination on a micro level is rare (Tsoukas, 2009).

We suggest a framework for examining IL in the process of knowledge creation and present results of an empirical study. The data is gathered in the context of research and development, in a multidisciplinary research consortium developing energy markets during 2015-2019. The data consists of 1) videos (ca. 10 hours in total) from a workshop organized in the consortium and 2) ethnographic data (documents, observations) gathered during the whole period. The approach is qualitative and focuses on examining the multi-modal interaction with interaction analysis, asking 1) what kind of information is brought into the workshop discussions, 2) how the information is evaluated in the discussions, and 3) how these are intertwined in the interactive process of knowledge creation. The findings suggest, that knowledge creation relates to the abilities of using various sources of information, and abilities of understanding the relevance of the suggested information in the hectic discussions. The outcomes can be used both in developing the methods of examining IL and in enhancing abilities to create new knowledge and collaborate in organizations.

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Keywords: *information literacy, knowledge creation, organizations, methodology*

Sustainable Practices in University Libraries

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Universities, at the forefront of knowledge, need to be aware of and provide research and education in how to reduce carbon emissions, as part of slowing down climate change. Several of the UN Sustainable Development Goals address this challenge (UN, 2019).

There are many ways universities can participate in lowering actions: from travel; paper consumption by employees and students; heating and recycling of waste.

In this paper, we will focus on what role academic libraries can play through teaching students to search efficiently through information literacy, and thus reducing carbon emissions from computer usage.

Kurbanoglu and Boustany (2014) estimated that a Google search generates 1 g–10 g of CO₂ emissions, depending on the time needed and the equipment used, and whether the equipment/computer was turned on or not, for one simple search on internet. Also, in 2013, Google estimated about 6 billion searches per day. Included in this was searching for information in library catalogues, databases, institutional repositories, and electronic resources such as books and journals (Kurbanoglu & Boustany 2014). The number of daily searches has multiplied since 2013.

Earlier research shows that “students are aware that effective and safe information search skills using the strategies learned during Information Literacy courses can substantially reduce carbon emissions and consumption of electricity.” “and the Information Literacy courses can lead to the change of informational behavior and generate sustainable thinking.” (Kurbanoglu & Boustany 2014; Repanovici & Landoy 2015) One way this can happen is if the courses are adopted to environmental sustainability. Students must be made aware of the ecological manner of searching, selecting, using and communicating information.

The main focus of studies on “green libraries” has been how to make buildings and services environmentally sustainable, and few have focused especially on the carbon emissions from student’s use of data. The authors created a survey to ask academic librarians how higher information literacy skills among students could contribute to reduced computer usage and searching, with 25 Norwegian and 25 Romanian respondents. In addition, we made a follow-up survey to the one from 2015 on students from Transilvania University of Brasov. From both the surveys the respondents saw IL training to make the students more efficient searchers as a great potential for cutting carbon emissions.

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Keywords: *environment, climate change, Norway, Romania, library trainings*

Information Literacy in Video Games' Affinity Spaces – A Case Study on DOTA 2

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Objectives

Studies showed that video games provide opportunities to foster skills that are fundamental to information literacy like reading, writing and critical thinking (Willet, Gumulak & Webber, 2011). The range of skills that gamers need in a video game are complex and in order to succeed they often need to consult secondary information sources (Gee, 2005). Affinity spaces are defined as an informal learning space with the possibility to find, create and share knowledge about a specific topic. Gamers enter these affinity spaces through portals. Portals are means of accessing and interacting with content in an affinity space and in an online gaming environment these portals often appear as online discussion boards, social live streams or video tutorials. This paper examines which aspects of information literacy are applied in the use of such affinity space portals including identifying, locating, evaluating, using, creating and organizing information.

Methodology

In this case study, our aim is to observe, understand and finally map the affinity space surrounding the free to play multiplayer online battle arena (MOBA) DOTA2 by Valve, to make sense of the different information literacy practices of gamers, their different roles and their movements in-between portals. The wide distribution of Dota 2 results in a large, extensive and multi-faceted affinity space, which makes it a good object of investigation. For our study we (1) executed sustained observation of DOTA2's online affinity space and systematic analysis of three portals in this space, (2) conducted interviews with gamers of DOTA2, and (3) applied a questionnaire to find out which portals are used and which activities gamers pursue there. As basis for analysis we used the information literacy indicators by Beutelspacher (2014).

Findings

Information literacy skills needed to take part in a video game related affinity space are manifold, starting with the identification of an information need and suitable information sources to the development of a search and evaluation strategy, the use and organization of information and communication and responsible handling of information. The results of this study show how information literacy skills are manifested in video games' affinity spaces and the different roles gamers take on while moving in between the portals of these spaces.

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Keywords: *information literacy, affinity space, video game, DOTA 2*

Finding Access Points for Data Literacy: The Example of the ERASMUS+ Project DaLiCo (Data Literacy in Context)

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The competent use of digital technologies as well as the competent and confident dealing with data (data literacy) becomes crucial in all disciplines and many areas of life, it is sometimes referred to as the “central competence for digitisation and the global knowledge society in all sectors and disciplines” (Heidrich, Bauer & Krupka, 2018, p. 14). Ridsdale, et al., define data literacy as “the ability to collect, manage, evaluate and apply data in a critical manner” (2015, p. 8). Since the coining of the term information literacy in the 1970s we have seen the rise of many different literacies like media literacy, digital literacy, visual literacy and many more. On the conceptual level the terms information literacy and data literacy are highly contested (Grillenberger, 2018) and used differently worldwide. This paper analyses and discusses the understanding of data literacy and places it in the context of related and interlinked concepts.

- This contribution looks for answers on the following questions:
- How is data literacy connected to other literacy concepts like information or digital literacy?
- How does data literacy differ over different domains such as government, health or in the economic sector?
- How can staff and students at higher education institutions be successfully supported to develop data literacy competencies and which disciplinary and interdisciplinary approaches subsist?

The conceptual clarification and contextualization of data literacy is a necessary first step of the Erasmus+ project “Data Literacy in Context” (DaLiCo), which is coordinated by the University of Applied Science Hamburg (HAW Hamburg). The aim of the four project partners (Debrecen, Hamburg, Valencia, Utrecht) is to develop an international, multidisciplinary approach and subject-specific integration of data literacy education at the partner institutions. A major challenge in order to successfully integrate data literacy into the study programmes and organisational structure of universities is a common understanding of data literacy. This article is based on our project experiences and presents first results, the methodological findings from institutional as-is and needs analysis with regard to data literacy. For this purpose, the content of curricula, course descriptions and final theses was analysed. By means of qualitative interviews and learning diaries master students analysed and reflected on their experiences with data literacy. The results will be compiled in a data competence map to serve as a structural approach for the as-is analysis of the participating institutions.

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Keywords: data literacy, data literacy education, DaLiCo

Information Literacy in the Public Realm: Reflections from the UK

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How can the concept and practice of information literacy be made more visible to policymakers, nationally and internationally? How can the societal importance of information literacy become better recognised in the public realm, and thereby become integrated in policy-making? What are the pathways for ensuring that information literacy features in public discourse with regards to education policy, citizenship and as a means of reinforcing democracy?

These are fundamental questions which have much currency across the world. With a focus on the situation in the UK, our presentation will explore how, over the past couple of years, implicit interpretations of information literacy are slowly, and somewhat belatedly, starting to feature in the thinking and even the policy of public agencies – government departments and other public bodies; and the efforts made by CILIP's Information Literacy Group (ILG) to encourage this trend.

We will chart the development and the impact of this growing awareness, through the publication of key documents such as the parliamentary reports on disinformation and fake news (2018 and 2019), the Cairncross Review (2019), the Online Harms White Paper (2019) and the activities of the UK media regulator, Ofcom. These and other initiatives are a reaction to growing concerns about the dangers posed by misinformation and other online harms, and are generally framed around what is termed as media literacy or digital literacy. While this public policy elaboration does not explicitly reference information literacy, in practice its thinking is closely aligned with it, as it recognises the importance of critical thinking and the critical appraisal of information encountered, shared and created online. This marks a departure to earlier public initiatives, such as the UK Digital Strategy, where the focus was on the acquisition of basic digital skills and inclusion.

Our presentation will examine these trends in the context of CILIP's revised definition of information literacy (2018), which explicitly recognises the relationship between information literacy and citizenship, and its societal importance in different lifecourse contexts. Although the definition by itself has not been a key determinant in influencing public policy, it forms part of a wide and growing range of civil society initiatives that aim to move the agenda towards more critical approach to information. We will set out how ILG and CILIP have been working to form part of this coalition of interest. On that basis, we will draw conclusions on the challenges of influencing and developing relevant national policies and frameworks and the lessons learnt that should be of interest to delegates from around the world.

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Keywords: *citizenship, national policy, government, society*

Analyzing the Mutual Effects of Teenagers' Media and Information Literacy and Self-Regulated Learning Within "Empowering" Activities

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This presentation introduces a framework to explain teenagers' performances in an information search and multimedia creation activity. Specifically, we investigate the influence of empowerment on the appropriation of this activity, considered as a situation of experiential learning, and the resulting self-regulation processes used by the students. This research constitutes the doctoral thesis of the first author, and is integrated into an international study (2018-2022) on the assessment of the media and information literacy of teenagers in online information search and multimedia creation in the French-speaking community of Belgium, Québec, France and Switzerland.

In the first data collection phase of this project (May 2019), a large sample of Belgian students (n~2000) completed a survey questionnaire on their self-reported practices, their self-assessed competences, knowledge and skills related to information search and multimedia creation, and on their dispositions towards self-learning (Carré, 2016). Based on this dataset, we explore the relationships between teenagers' self-assessments and their self-reported learning readiness, focusing on self-efficacy feelings, cognition needs, learning pleasure, prove goal orientation and persistence. We will present the first results of this study.

Our further aim is to investigate the effects of students' self-regulation mechanisms on the development of their media and information literacy, and vice versa. To this end, we will present the second data collection plan (2020-2021), during which a smaller sample of students will be invited to complete a complex task consisting in creating a multimodal article on a website based on the results of an extensive web search. In this second phase, the students' media activity will be observed as a situation of experiential learning (Kolb, 2015) which stimulates self-learning regulation strategies (Cosnefroy, 2011), as it requires students to learn how to inform and to express themselves on a specific subject, through a dedicated medium.

The task design will include several features intended to support the students' feeling of empowerment (e.g., the possibility to choose the subject of their production) in order to confirm our hypothesis that self-regulation strategies can be enhanced in a situation of empowerment (Bacqué & Biewener, 2013). As the activity will be assessed, and will take place in the school context, students may feel empowered to various degrees, despite our best efforts. Hence, we will use these variations to analyze how teenagers' feeling of empowerment affects their reflexivity, and more specifically their self-regulated learning strategies (Cosnefroy, 2011).

Overall, by uncovering the conditions under which media and information literacy can enhance self-learning, and vice versa, our research should offer insights for the development of emancipatory pedagogy.

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Keywords: media literacy, self-regulated learning, empowerment, competencies, practices, learning readiness

STEM Information Literacy: A Bibliometric Mapping (1974-2020)

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Recent literature (Harris, 2017; Phillips, Van Epps, Johnson, & Zwicky, 2018) has focused on information literacy in the fields collectively named STEM (Science, Technology, Engineering and Mathematics). Several studies have used bibliometric methods to analyse scholarly output related to information literacy research (e.g., Stopar & Bartol, 2019). However, a bibliometric overview of the information literacy field from the STEM perspective is still missing. Hence, this paper explores this field of research and practice—STEM information literacy—using three different bibliometric approaches which correspond to the following research questions:

- RQ1. Which are the most common publication channels in the field of STEM information literacy? How is it possible to cluster its published documents according to such channels?
- RQ2. Which highly-cited documents are central in the network created by their bibliographic coupling? Which clusters of documents are identifiable in this way?
- RQ3. Which are the most recurring topics in the field? Which clusters are formed by the co-occurrence of author-generated keywords?

Methods

The relevance of documents to the STEM fields was operationalised by using the Classification of Instructional Programs (CIP) Codes of the U.S. Department of Education. Data from Clarivate Analytics Web of Science was used for RQ1 and RQ2. Data for the analysis of keyword co-occurrence (RQ3) was instead obtained from the Elsevier database Scopus, which offers a more fine-grained classification of its indexed content.

The overlap between all documents with 'information literacy' in the title, abstract or keyword, and all the STEM documents indexed in Web of Science (according to the U.S. Department of Education) was identified (N = 1,714). In Scopus, after manual cleaning of all unique author-generated keywords (N = 16,667), the ones with at least three occurrences (n = 2,871) were clustered according to co-occurrence. This paper discusses differences and similarities between the clusters corresponding to RQ1-RQ3.

Findings

When looking at the network of publication channels, STEM-specific journals and conference proceedings appear peripheral. All the central publications in the network are LIS publications. In a thermal map of the 'hottest' documents, the ones which appear as central in the network according to bibliographic coupling, one finds all works authored by well-known information literacy scholars. However, the picture of the field appears to be more scattered from the vantage point of the keyword analysis.

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Keywords: *STEM information literacy, bibliometrics, bibliographic coupling, keyword analysis, STEM field, information literacy*

Copyright Literacy 2020: Six Years on from the Multinational Survey

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The term copyright literacy was coined in 2014 as part of a multinational study into understanding of copyright amongst librarians (Todorova et al., 2017). This study has subsequently been carried out in more countries, most recently in Germany (Franke, 2019). The term has been broadened to encompass teaching of copyright by information professionals and the awareness of copyright law required to thrive in the digital age (Secker et al., 2019). It is closely aligned to the concepts of digital and information literacy. This talk will reflect on the development of copyright literacy as a concept and highlight a number of initiatives to apply it in different contexts. It will begin by addressing the importance of communities of practice to those interpreting and teaching how to apply copyright law to given situations. This is particularly relevant with copyright law which has ambiguity at its heart and requires people working with it to get comfortable with uncertainty. Experiences from the UK demonstrate that national and local communities of practice provide librarians with vital support as well as providing the basis for an international conference on playful approaches to copyright education (Icepops, 2020). The talk will then outline two complementary approaches to developing copyright literacy at an institutional level. The first is the creation of a copyright literacy strategy at the University of Kent which is informed by socio-legal masters research into interpretation of educational copyright exceptions (Morrison, 2018). The second is the creation of a module exploring digital literacy and open practice at City, University of London, which is part of the Masters in Academic Practice and situates copyright literacy as a component part of digital scholarship (Weller, 2011). This module is also being informed by an ongoing research project into staff experiences and understanding of both digital literacies and open practice. Finally, the talk will highlight international efforts to build copyright literacy in different contexts. IFLA's (2018) statement on copyright education and copyright literacy has led to a programme of work to understand library associations' levels of support for those looking to interpret or teach others about copyright. The presenters will briefly reflect on the response to their own game-based copyright education resources in countries as diverse as Uruguay, Canada, Australia, Czech Republic and Kyrgyzstan. This has included developing Copyright the Card Game (Morrison & Secker, 2015) and an open access board game called The Publishing Trap (Morrison and Secker, 2017). There will be an opportunity to play these games at a separate ECIL workshop session. Copyright literacy has developed significantly in the past six years and the talk ends with a reflection on ECIL's ongoing role in supporting the international community of practice.

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Keywords: *copyright literacy, international research, communities of practice, open practice*

Peer Assessment, Self-assessment and Teacher Scoring within an Information Literacy Course

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Objectives

At Ghent University, activated learning is a key component in the education of students to become lifelong reflective learners. Peer review and self-review were introduced in a Health Sciences information literacy course to evaluate students' self-assessment (De Meulemeester et al., 2019). Peer review is used as an educational methodology to improve learning and as an assessment tool for teachers and students (Mora et al., 2020). To review, students are required to be reflective, to develop critical thinking and problem-solving skills. Research demonstrated however that self-assessment can be influenced. The scoring and feedback from the teacher is therefore eligible (Haxton, 2019, Hulsman & van der Vloodt, 2015). The purpose of this research is to determine whether there is a correlation as well as a difference between peer review, self-review and teacher-scoring.

Methods & Outcomes

Data has been collected within first-year Health Sciences curricula, including (medicine (n=156), dentistry (n=29) and biomedical sciences (n=144), in the academic year 2018-2019. According to a predefined scoring/review form, students conducted a self-review and two peer reviews of research papers. The teacher scored every research paper. To look for correlations, Pearson's r was calculated for the overall students-group as well as for the separate groups. To look for differences between scores, paired-sample t-tests were conducted.

All correlations were significantly positive linear. Strong correlations between peer review and teacher-score ($r=0.738$) and for the individual groups ($r=0.726$ -- $r=0.751$) were found. A moderate correlation was found between peer review and self-review ($r=0.531$), which does not hold for the individual groups ($r=0.104$ -- $r=0.730$). Between the self-review and the teacher-score there is a moderate correlation ($r=0.439$) which also holds for the separate groups (0.309 -- $r=0.539$). For all groups, teacher-scores are significantly lower than peer review and self-review ($p<0.001$); self-review-scores are significantly higher than peer review-scores ($p<0.001$). In the free comments, students mention they really like the peer review as they learn from it. Although there are positive correlations between the different scores, teachers give lower scores. This study confirms the importance of the scoring and feedback of the teacher as an evaluator.

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Keywords: *information literacy, peer review, activated learning, higher education, self-evaluation, peer-assessment, self-assessment*

From Cooperation to Collaboration: Towards a Framework for Deepening Library Partnerships

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As institutions with high public trust and educational missions, libraries are uniquely positioned to respond to challenges of misinformation, but they need not work alone. Allied professionals such as journalists, educators, and the tech sector are all actively engaged in responding to these challenges, and librarians could partner with them as “natural allies” in combating misinformation (Banks, 2017), but too often they work in silos rather than in collaboration. The project, *Know News*, resulted in nine actionable proposals but also surfaced questions pointing to a need for further research. Symposium participants noted the proposals tended to replicate existing programs and centered librarians while relegating allied professionals to support roles, reflecting a networking model rather than true collaboration (Saunders, Gans-Boriskin, & Hinchliffe, 2018). Participants struggled to overcome barriers and go beyond silos in part because of a lack of deep understanding of the values and practices of the other professions. At the same time, information professionals are encouraged, even expected, to engage in collaboration as evidenced by statements from organizations such as ALA, ACRL, LLAMA, SLA, and SAA citing collaboration as a professional competency. Collaboration is crucial to delivering excellent services, reaching the widest audience, and meeting community needs. Certainly, there are many examples of libraries collaborating with a variety of partners from social workers, journalists, and immigration centers in public libraries to accessibility offices, careers services, and writing centers in academic libraries. But when assessed against a collaboration spectrum (Himmelman, 2002), many projects fall along the lower to middle part of the spectrum, reflecting coordination or cooperation, but not deep partnerships. The lack of deep collaboration suggests that libraries and those with whom they cooperate are not reaping the full benefits of an integrated partnership, including full ability to leverage each other’s resources, expertise, and respective audiences (Mattessich & Johnson, 2018). Lower levels of collaboration could be in part due to a lack of understanding of the complexity of developing an integrated partnership and a lack of training in such development, both of which can lead to a mischaracterization of cooperation as collaboration, and uncertainty or inability to proceed in the face of common barriers to collaboration. Building on one of the outcomes of the *Know News* project, which identified low levels of collaboration as an issue, the presenters engaged in focus groups with librarians from a variety of settings as well as actual and potential community partners to identify barriers to and success factors for collaboration. The research has uncovered themes which form a framework for collaboration, including identifying community needs; understanding cultures (mission, vision, values, jargon, work patterns); articulating mutual benefits; developing metrics of success; setting parameters (e.g., creating Memos of understanding); and project management. This session will present the framework for collaboration resulting from this research. The presentation will review common barriers to collaboration and discuss approaches for overcoming those barriers as well as best practices for meaningful collaboration, including identifying community needs and potential partners; aligning vision and goals; and implementing and managing a successful collaboration.

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Keywords: *misinformation, collaboration, library partnerships*

“On the Fly”: Collaboration between Teachers and Teacher Librarians in Inquiry Learning

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Education in a post-truth era poses unique challenges for educators supporting youth in learning how to learn and engage with an information landscape fraught with fake news, alternative facts, and information overload. Australia is facing other challenges with the underachievement of Australian students in national and international tests (ACER, 2019); an increasing focus on content in syllabi (New South Wales Educational Standard Authority [NESA], 2019); and increased accountability and “administrivia” for teachers (Patty, 2018). In order to address these issues, NESA (2019) proposes prioritizing information literacy. Teacher librarians (TLs) are in a leadership position to support these skills through an embedded information literacy program underpinned by inquiry learning. However, collaborations between teachers and TLs are rare. Recent research confirms the essential but elusive nature of collaboration at the international level (Mardis, 2017) and in Australia (Merga, 2019). The purpose of this research was to explore collaboration between Australian teachers and TLs while planning, delivering, and assessing inquiry units supporting information literacy skills. A phenomenological design was chosen as the foundation for this study as researchers are seeking to investigate the lived experiences of teachers and TLs during collaborative units (Creswell, 2009). This methodological approach is non-directive and leaves the questioning open so that themes emerge naturally throughout the data collection process (Patton, 2002). This project consists of two phases: 1) an online questionnaire for TLs; and 2) interviews with TLs and the teachers with whom they have collaborated. Our preliminary findings identify two themes as having the biggest impact on quality of collaboration: time, and a schoolwide understanding of the nature of information literacy and the role of the TL. In general, our respondents describe “on the fly” collaboration, carried out at a low level. Level C collaboration (Montiel-Overall, 2005, 2008, 2010), where planning, delivery, and assessment of inquiry units happens at the level of shared thinking, shared problem solving and shared creation of integrated instruction is rare amongst our respondents - described by Annie as happening “once in a blue moon”. Facilitators to successful collaborations include a schoolwide understanding of the role and potential of the TL in supporting information literacy skills, perceptions of individual TLs as expert teachers, and access to appropriate resourcing. A further critical issue is the decline of school library budgets and TL staff allocations (Godfree & Neilson, 2018). TL positions need more security and better definition in Australian schools as well as in the pre-service training of teachers and administrators to support information literacy learning. The role of the TL as an information literacy expert is even more critical in a post-truth era.

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Keywords: *information literacy, inquiry learning, collaboration, school libraries, teacher librarians*

Everyday Health Information Literacy and Attitudes towards Digital Health Services among Finnish Older Adults

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Researchers often see everyday health information literacy (EHIL) as people's perceptions of their own capability to obtain, evaluate, and use health information in their everyday life (e.g., Enwald et al., 2016; Eriksson-Backa et al., 2018; Hirvonen et al., 2016; Niemelä et al., 2012). Studies show that having a higher level of EHIL can be important as it might lead to healthier behaviour (Hirvonen et al., 2016) and more active health information seeking behaviour (Eriksson-Backa et al., 2018). This survey study on older adults in Finland sheds light on the role of EHIL in relation to attitudes towards digital health services. To the best of our knowledge, no one has studied this topic earlier. Another novelty is that we analysed EHIL by using structural equation modeling.

We mailed postal surveys to a random sample of 1,500 Finns aged 55-70 years, drawn from the national Population Register, and received 373 completed surveys (25%). The survey contained sections on, among others, health information behaviour and use of and attitudes towards digital health services. We measured EHIL by an adapted version of the EHIL screening tool developed by Niemelä et al. (2012). Our statements represented the constructs motivation, confidence, and evaluation, and the answers were given on a 5-point Likert type scale (strongly agree – strongly disagree). The analysis was conducted using partial least squares structural equation modeling (PLS-SEM) with SmartPLS 3.0.

The analysis suggested that among older Finnish adults, EHIL is positively related to more positive attitudes towards digital health services and their importance, and negatively to more negative attitudes to such services. The results emphasise the importance of EHIL as an enabler of acceptance of digital health services. The study also introduces new methods for analysing EHIL.

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Keywords: digital health services, eHealth, everyday health information literacy, Finland, health literacy, older adults, seniors

Managing Personal Data in the Age of Surveillance Capitalism: A Sociomaterial Reading of Mozilla's Data Detox Kit

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For nearly two decades, dominant internet companies have successfully implemented a new business model that capitalises on the gathering of enormous amounts of personal data about every aspect of our lives. Within this logic of surveillance capitalism (Zuboff, 2019), individuals become objects from which raw material (data) is extracted to enable the selling of predictions of behaviour. Personal data enables personalisation of digital services enticing users to release even more personal data for the benefit of the service provider (Špiranec, Kos & George, 2019), making users increasingly vulnerable to various influences (commercial, political etc.). Data literacy, as a part of information literacy, refers to the ability to “access, interpret, critically assess, manage, handle and ethically use data” (Prado & Marzal, 2013, p. 126). As a way to increase knowledge of how personal data is collected, used and how individuals may take better control over these processes, the not-for-profit Mozilla Foundation has presented an online guide, *the Data Detox Kit* (DDK), available in several languages. In this study, the DDK is viewed as a window into what influential internet organisations consider important and reasonable for average internet users. Consequently, the DDK can be seen as a contemporary, practical expression of a data literacy expressed in various information activities. This contribution applies a sociomaterial perspective (Orlikowski, 2007), acknowledging the constitutive entanglement of the social and the material, to identify and analyse the information activities described in the DDK.

The DDK is a website (www.datadetoxkit.org) containing 20 pages divided into three main categories: privacy, security and wellbeing. Every page of the DDK-website was downloaded and then closely read, and 105 information activities was identified. After removing duplicates, 65 of these activities were labelled as data-related and included in a qualitative content analysis. Guided by the notion of sociomaterial assemblages (Suchman, 2007), where humans and artefacts enact each other in practices, a thematic analysis showed that information activities related to controlling the gathering of personal data are intimately connected to the tools used for accessing internet. In particular, phones, browsers, search engines, and social media interact with users in different ways affecting how personal data is collected and distributed. Two forms of data literacy are identified and discussed: a re-active mode, focused on removing data already gathered, and a pro-active mode, focused on preventing data from being gathered.

Through this analysis of a practical example of data literacy, it is possible to discuss the role of data in our everyday lives, including the challenging task to manage personal data online. The results of this study place data literacy, as a crucial component of information literacy, in the context of surveillance capitalism. Results also illustrate the extent of personal data gathered by examining the plethora of information activities suggested to individuals interested in taking control over how personal data is collected and used by internet companies. The findings are useful for librarians and teachers who can supplement traditional information literacy instruction with a deeper understanding of data literacy.

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Keywords: data literacy, information literacy, personal data, surveillance capitalism

Participant-Generated Visual Data in Information Literacy Research in the Second Decade of the 21st Century: A Literature Review

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Objectives

The human-centered, participatory approaches along with visual methods are growing in importance in the LIS area (Pollak, 2017). In this context, the goal of our work has been to discover if and how participant-created visual material was employed in information literacy (IL) research in the second decade of the 21st century. In general, participant-generated, image-based empirical primary data may take forms of cartoons, collages, concept/mental maps, diagrams, drawings, infographics, films, photography, schemes, sculpture, timelines, and more (Hicks & Lloyd, 2018). We have formulated the following research questions: (1) What kinds of participant-generated visual data were used in the IL research? (2) By what data-gathering procedures (e.g., the draw-and-write technique, photovoice, etc.) they were elicited? (3) Did they appear in the IL investigations on their own or in combination with verbal data (e.g., from diaries, focus groups or interviews)? (4) How the visual material was analyzed? Qualitatively? Quantitatively? By what techniques (e.g., grounded theory approach, thematic analysis, visual discourse analysis, etc.)? And, finally, (5) what specific problems of information literacy were studied based on user-created, visual content?

Approach and methodology

This study is methods-oriented and focuses solely on using participant-generated visual data in the contemporary IL research. It does not concern problems of data visualization, visual literacy, visual materials in information literacy teaching, nor researcher-generated visual content. The LISTA database, indexing more than 700 LIS-related periodicals, was selected to identify appropriate scholarly works. The search query with the thesaurus term “information literacy research”, limited to English language, peer-reviewed journals and years 2011-2020, brought 202 records (in March 2020). However, after screening all abstracts (and – if needed – full texts) we received very few pertinent results. Consequently, we used a query “*information literacy*” AND (*art OR “concept map” OR cartoon OR diagram OR drawing OR „draw-and-write” OR film OR graphic OR illustration OR image OR imagery OR „mental map” OR photo-diary OR photography OR photo OR photovoice OR pictorial OR picture OR poster OR timeline OR video OR visual*) AND (*analysis OR data OR method OR methodology OR technique*), with the same limiters. That found 283 records. Reading through all abstracts and supplementing the results by snowballing technique allowed to identify 24 relevant publications, that is, the IL works based on gathering, analyzing or discussing participant-generated visual material. Both papers reporting empirical projects and the methodological ones were considered, provided that IL was their main focus.

Results (selected)

The potential of participant-generated visual data is not fully realized by the IL researchers. Verbal data, coming from focus groups, interviews, questionnaires, surveys and tests, are prevailing in the IL studies in years 2011-2020. Nevertheless, some visual data gathering techniques appeared, including concept and information horizon mapping, drawings, photo-elicitation, photovoice, students’ posters. Also, it is worth noting that participatory visual methods favor the participants’ own views over the researchers’ presumptions, which is specific to the qualitative paradigm and vital in understanding the information literacy problems.

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Keywords: *image-based research, information literacy, participatory methods, qualitative research, visual data analysis, visual research*

Sustainability Literacy Approaches in LIS Education: Epistemological Beliefs, Teaching and Learning

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Even though definitions of Sustainable Development abound, the most cited definition of this concept is the one that was proposed by the Brundtland Report: Sustainable Development is development that meets the needs of current generations without compromising the ability of future generations to meet their own needs and aspirations. Thus, Sustainability Literacy can be described as the combination of knowledge, competences and value sets required to live and work sustainably, making informed and effective decisions to this end and advocating for resilient social, economic and environmental systems (Hauke, 2018). Complementary research developed by IFLA has also been exploring this interdisciplinary field, bringing together ideas and approaches from different areas and promoting attitudes and competencies of librarians towards the 2030 Agenda mainly through its Special Interest Group on Environment, Sustainability and Libraries (ENSULIB). The academic debate, in turn, discusses sustainability key competencies with a variety of research and teaching approaches: Systems-thinking, Futures thinking, and Normative, Strategic and Interpersonal competencies (Wiek, Withycombe & Redman, 2011). These competencies are focused on problem-driven and solution-oriented ideas in order to plan, conduct, and engage in sustainability research. So far, incorporation of sustainability competencies into curricula has been slow, with different proposals regarding how content and competencies linked to sustainability can be incorporated. (Eizaguirre, García-Feijoo & Laka, 2019).

This paper intends to discuss critically the pedagogical experience of developing and implementing a sustainability literacy approach within the Master of Information Management and Curation's curricula at Universidade NOVA de Lisboa (2018-2019), pursuing two objectives: to identify the relevant key competencies in sustainability literacy and to synthesize the transition from competencies to learning objectives/outcomes linked to information literacy. The analysis is based on qualitative methodologies used to investigate learning impacts during 2019: a focus group was used for evaluative purposes by two teachers and twenty students. Twelve students were also involved in post interviews, personal reflection and a concept mapping of key skills in order to analyze learning and epistemological beliefs. Impacts described included acquisition of transdisciplinary skills with special attention to sustainability co-evaluative skills. These outcomes emphasize that this approach prepare students for sustainability intervention areas: (1) future information literacy trainers/facilitators for internal and external audiences; (2) advocacy – evidence gathering and promotion of information services contribution to sustainable development; and (3) research on Sustainable Information Behaviour (SIB) and greening libraries to embed the concept of sustainability into our everyday life information practice.

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Keywords: *sustainability literacy, competences framework, LIS education*

Understanding the Landscape of Science Communication in Terms of Attitudes towards Science: The Role of Perceived Credibility

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People's attitudes toward science and credibility judgements regarding different science information sources are influential aspects in science communication since they affect the degree of attention that audiences will pay to science-related information (National Academies of Sciences, Engineering, and Medicine, 2017). Competent judgement about source credibility is a crucial aspect of information literacy (Bird, McInerney & Mohr, 2011). This study aims to analyse the credibility of various sources of science information, and examine how it predicts individuals' attitudes towards science.

The study is based on two representative surveys carried out in Latvia in 2019 ($N = 1014$) and 2020 ($N = 1009$) (51.8% female) aged 18 to 75 ($M = 46.02$, $SD = 15.7$). The participants filled out a questionnaire that contained questions about attitudes towards science and credibility of three sources of science information: media, personal experience and interpersonal relations, and the science related source. These sources were clarified as a result of a factor analysis of 17 items. Correlation analysis and hierarchical regression analysis was performed with the survey data.

According to the results, attitude towards science is most closely related to the perceived experiential and relational credibility ($r = .41$) and perceived credibility of the science related source ($r = .43$). In the hierarchical regression analysis for attitude towards science the second model explains 23% of the variance ($R^2 = .23$, $F(7,1708) = 73.96$, $p < .001$); the perceived experiential and relational credibility ($\beta = .25$, $p < .001$) and perceived credibility of the science related source ($\beta = .30$, $p < .001$) predicts attitude towards science. Gender, age and education did not play a statistically significant role explaining attitudes towards science.

The results suggest that the perceived experiential and relational credibility of personal relations to the source and perceived credibility of the science related source are the most important factors that predict attitude towards science. Another finding is that the media did not turn out to be as credible as science related sources. At the same time personal relations to the source (e.g., family members, close friends, personal experience) positively affected the credibility of the source. In this situation, there is a risk that personal views of non-scientists can be biased and hence may hinder the perception of the science messages. More research is needed to clarify why media was not considered as credible sources in science communication. Such findings may have implications for choices of communication channels in the future. One direction of the action would be to increase direct contacts between scientists and the public.

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Keywords: science communication, credibility of information sources, attitude towards science

User-based Evaluation of the Slovenian Version of Information Literacy Online – a Multilingual MOOC for Information Literacy: Methodology and Preliminary Results

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MOOCs (Massive Open Online Courses), freely available online courses without entry or participation limitations, (Bozkurt et al. 2017), have become a valuable teaching tool for blended and self-paced learning (Bates, 2015; Robinson & Bawden, 2018). While several evaluations of MOOC projects exist (e.g., Young et al., 2017), very few investigate MOOCs on Information Literacy (IL). We present a pilot qualitative evaluation of *Information Literacy Online* (ILO) – a MOOC for IL (project, MOOC design and implementation described by Dreisiebner et al., 2019; Libbrecht et al., 2019). It has six modules in six languages (English, Spanish, Catalan, German, Croatian, Slovenian), covering the information cycle during study activities. A mainly quantitative evaluation of the German version was already done during development (Dreisiebner et al., 2019), surveying user interface and progress of students' knowledge. Our research goal was to evaluate the current Slovenian version and gain information to guide further development and use of this MOOC. We used diary and interview methods, in parallel investigating user perceptions of the MOOC and user-perceived usefulness of content (both areas being inherently linked in the user perspective). A convenience sample were 12 experienced LIS masters students completed all six modules in six weeks in November-December, 2019, keeping a diary, following the evaluation framework, designed for this study (following Robinson & Bawden (2018) and Arnes (2018)). Elements were: 1) Entire MOOC: instructions, language, grammar, logical sequencing, use of video, tools for synchronous/asynchronous communication; preparation, submission, overview, evaluation, feedback, collaborative work.; 2) Introductory page of each module: Content description, learning goals, timeframe, important dates, sources with URLs.; 3) Module chapters: theory, exercises, difficulty, amount of material, length; 4) Concluding page of the MOOC: user feedback options, follow-up options, certificate. Participants marked each element as present/absent and commented on its realization from the point of view of user perceptions and usefulness of content. After completing each module, they answered five open-ended questions on perceived success, emotions during the course, acquired knowledge and its usefulness, positive/negative experiences, suggested changes or improvements. The results indicate some positive impressions: ILO is a valuable tool, especially for a beginner student, and should be continually developed also in the future; students liked the number of modules and distribution of content, combination of various teaching methods and formats, and others, and some areas to be improved (improper balance of text and video, unexpected sequencing, different length and difficulty of modules, too few feedback options, language/grammar errors, inconsistent use of video (of amount, length, placement, etc.), not enough or too easy exercises, etc.) The results are valuable guidelines for the development of ILO MOOC and its future evaluations.

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Keywords: MOOCs, information literacy, information literacy online, evaluation, qualitative studies

Assessing Media and Information Literacy: Teenagers' Practices and Competence in Information Search and Multimedia Creation

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In this presentation, we introduce the theoretical framework, methodological design and first results of an international study (2018-2022) on the assessment of teenagers' Media and Information Literacy (MIL) in online information search and multimedia creation, in French-speaking Belgium, Québec, France and Switzerland. The results presented focus on the levels of general MIL competence self-reported by Belgian and Swiss adolescents, the relationship between their competence and their media and information practices, and the influence of gender on their self-reported competence and practices. We consider MIL as a set of competences "to adapt oneself to novel situations in new and non-stereotypical ways" (Rey et al., 2012, p. 13). Our research aims at producing a unified conceptual and methodological framework to study the relationship between MIL as competences, the knowledge and skills these competences call upon, and media and information practices. We draw on prior theoretical work to distinguish between the semiotic, technical and social dimensions (Fastrez, 2010) of MIL, and to highlight its multimodal nature (Lacelle et al., 2017). Our methodological design starts from the definition of a complex task requiring students to be competent at creating an explanatory hypertext (i.e., a website) detailing the results of an extensive web search. This complex task is decomposed into simpler tasks, each calling for a specific piece of knowledge or a specific skill potentially useful in the complex task. The complex task and the simple tasks are converted into both survey questionnaire items (yielding self-assessed competence, knowledge and skill levels) and test task instructions and questions (yielding performance-based assessment data). Each task also corresponds to survey items on its associated media and information practices. In the first data collection phase of our project (2019-2020), a large sample of lower secondary education students (i.e., 13-15 year-olds; from 600 to 2000 participants depending on the participating country) completes a questionnaire on their self-reported practices and self-assessed competences, knowledge and skills related to information search and multimedia creation. In the second data collection phase (2020-2021), a smaller sample of the same age range will complete the same survey, as well as a test including our complex task and simple tasks and participate in qualitative interviews on the strategies they used to complete the complex task. Data collection for the first phase was completed in Belgium and in Switzerland respectively in May 2019 and February 2020, and will be completed in Québec and France in 2021. Based on this dataset, we will present the results from the Belgian and Swiss samples which indicate that levels of reported search competence are superior to those of web creation and attest to varying degrees of connection between the competence and practices in information search and web creation. Our results also show several gender differences in young people's practices, and they reveal, according to participants, that school has not played a decisive role in developing their MIL competence. The second phase of our research will help us to identify both didactical and pedagogical implications for the development of MIL educational practices.

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Keywords: competence assessment, information search, multimedia creation, media and information literacy

Learning how to Avoid Plagiarism by Adopting a Rhetorical Perspective on the Use of Sources: A New Approach in Curricular Information Literacy Sessions for Computer Science and Engineering Students

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Plagiarism is one of the main issues information literacy (IL) had to address in higher education in the last decade, especially because of its increase due to easy access to digital information (Jereb et al. 2018). In addition to enhancing students' sensitivity to the ethical and disciplinary aspects of plagiarism through policies, guidelines and codes of conducts, there is a need to develop instructional concepts that address the issue of poor skills in the understanding and correct use of sources to avoid unintentional plagiarism.

According to brief oral surveys carried out at the beginning and at the end of the curricular advanced courses our library offers to computer science and engineering students, their main concern appeared to be indeed that of involuntarily committing plagiarism, regardless of the knowledge of citation rules.

This hints to a more general problem related to the comprehension of scientific texts written with specific terminology and following precise argumentative rules, which presupposes a mastery of rhetorical skills that is normally not provided for in the curricula of technical studies. We have to face the necessity to offer students in the technical fields better tools for understanding the function of sources, if we want them to fully grasp the meaning of plagiarism.

On these premises we redesigned our IL sessions about “Plagiarism and Citation” taking into account several developments in IL over the last two decades. We implemented aspects of the Information Literacy Standards for Science and Engineering (ACRL, 2006), the Framework for Information Literacy for Higher Education (ACRL, 2015), and, as a novelty in the IL for technical studies, Bizup’s (2008) rhetorical model for research-based writing in the humanities (Bizup, 2008). Bizup rejects the canonical division of sources into primary, secondary and tertiary, but instead considers them in their rhetorical-argumentative functions. The reader of a scientific text is hereby invited to recognize the function of a source as “Background”, “Exhibit”, “Argument” or “Method” or a combination of those (BEAM-Model). We adapted the model by adding “Standards and Patents” to the original categories, translating them and building a new acronym (HUMAN) for the German target audience.

In this paper, we will argue, according to a literature review and our experience, that a deep understanding of the sources as rhetorical components of scientific argumentation strongly improves technical degree student’s awareness of plagiarism. We will also discuss the possibilities of an evaluation of the outcomes, possibly through an analysis of the argumentative use of sources in bachelor theses of students who benefited of the new design.

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Keywords: *information literacy instruction, higher education, technical studies, plagiarism awareness, BEAM-model*

Knowledge Creation and Information Literacy: A Hermeneutic Phenomenological Point of View

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In recent years, several researchers have focused on Information Literacy (IL) in workplaces (Ahmad & Widen, 2018). In addition, much work has been done to develop the skills and abilities of the becoming professionals by suggesting programmes and frameworks for educating students. For example, The Framework for Information Literacy in Higher Education (Framework) emphasizes the contextual and interactive nature of IL, and draws from the notion, that creating new knowledge a key aspect in work. In Knowledge Management, knowledge creation is defined as a process, which involves sharing information and knowledge, and seeing new connections and meanings in interaction between human beings, or humans and information sources (Nonaka, 1994; Tsoukas, 2009). However, the role of IL in the process of knowledge creation in organizations has not been thoroughly explicated theoretically. This study contributes to the theoretical development of the research of IL in relation to knowledge creation by suggesting a hermeneutic phenomenological basis for the study.

The approach suggested in this study derives from the phenomenological notions of the temporality of being, meaning that while acting and interacting in a certain situation, both past experiences and future expectations are present and constantly changing (Heidegger, 1985). Hermeneutic phenomenology also gives means to understand and investigate interaction as a hermeneutic circle, where humans act supported by the horizon of expectations based on their prior experiences to create shared understanding (Gadamer, 2004.) This study examines the significance and consequences of these premises for the understanding of IL in knowledge creation.

The study is based on theoretical examination, starting from the analysis of the Framework outlining the ideals of developing students into competent professionals in knowledge-based organizations. The Framework is related to the research of IL at work, especially to the research of IL as a praxis, which is social by nature (Lloyd, 2012), and to the research of knowledge creation and hermeneutic phenomenological conceptions outlined above. In this way, the aspects of IL, such as evaluating coherent information and making informed decisions can be seen in a continuous hermeneutic circle. This contribution has both scientific and practical outcomes. It introduces a theoretical basis for examining IL related to knowledge creation and provides means to understand the development of knowledge creation capacities of the students, as well as professionals.

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Keywords: *information literacy, knowledge creation, organizations, hermeneutic phenomenology*

Open Research Data and Openness: Views of Scholars in Finland and Lithuania

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Objectives

The goal of open research data movement is to have reproducible and transparent research data. A core set of principles were drafted in order to optimize the machine-based reusability of research data, named the FAIR Data Principles. They represent a community-developed set of guidelines and best practices to ensure that data or any digital object are **F**indable, **A**ccessible, **I**nteroperable and **R**e-usable (Wilkinson et al. 2016). The data should be sustainable, open, and the research should be conducted in a responsible manner. The open research data movement has gained increased visibility and influence for a number of reasons. Most often it is because of policy implemented by research funding institutions renew public trust in science-based policies. The main goal of this paper is to analyse the attitudes and behaviour of researchers concerning research data management issues based on a combined research data that produces the result in two countries – Finland and Lithuania.

Method

This study is a part of an international collaboration project on *Data Literacy and Research Data Management*, performed by a group of researchers in more than 24 countries during 2017. The survey instrument, consisting of 24 questions, was created by researchers from England, Turkey and France. The survey included questions related to data used by the researchers, willingness and attitudes towards sharing data and data management. LimeSurvey online platform was used for data collection. Scholars and researchers in Finland and Lithuania were surveyed applying this method. The data were collected in 2017. The survey received a total of 671 completed responses from Finland and Lithuania combined and analysed quantitatively. The focus on differences and similarities between research fields was given. In the questionnaire a list of subfields was given and for the analysis they were combined into the main classes using the Common European Research Classification Scheme (1991).

Outcomes

Most respondents are positive towards openness and sharing their research data. Less than 30% of them would not be willing to share their research data. Others share it at least within their team (on the average 59%), but a third (33%) would share it also to researchers in other institutions. Willingness to share was higher in natural, biomedical and technological sciences than in humanities and social sciences. Nevertheless, researchers were aware of concerns connected to openness of research data. Most often they mentioned legal and ethical issues (mentioned by 36%), misinterpretation (30%) and misuse (27%) of data. Although the principle of open research data is supported, there are considerable differences in the character of research data, its ethical concerns, data management policies etc. between different fields of research.

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Keywords: *research data management, university scholars, Finland, Lithuania*

Connecting New Trends and New Skills for Academic Librarians

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Recently, librarians' associations around the world have been reflecting on the professional development of their members. At the same time, researchers and practitioners seek to think and act following the contextual evolution of the profession (Dempsey & Malpas, 2018; Pinfield, Cox & Rutter, 2017; Prentice, 2019). Increasing and diversifying information to manage, submerging technologies that need to be mastered, spaces that take on new roles, the growing context of open science, the systematic evaluation of research and bibliometric, and the multiplicity of requests from users who call for updating their information literacy, require the new and updated skills from these professionals. In higher education, whose social mission is to educate future generations, create knowledge and ensure innovation in all subject areas of the public sphere, meeting emerging trends is imperative. This paper reflects on the current context regarding the competences of the information professional working in higher education, trying to demonstrate how these competencies should be a response to the new trends. This is verified in the guiding documents of national Professional Associations (Sanches, Costa, Príncipe, Lopes, Aurindo & Martins, 2018) and international relevant institutions (Liber, 2017), consolidating and strengthening the daily professional practices. The skills required to information professionals are collected in the main guidance documents ruling, complemented by current published studies. The main areas are clarified, creating action clusters, proposing an articulation of these with the learning, teaching, and research needs to design a skills map for future information professionals. Training skilled information professionals' means being aware of current trends and recommendations for the area. Thus, a questionnaire survey is applied to students of a Master's degree in Documentation and Information Sciences to assess their perception of the librarian's new roles and competencies. The results show the student perception of the most important higher education librarian skills, and particularly about librarian information literacy skills. The results should be motivating factors for higher education institutions in their commitment to provide conditions for the continuing education of information professionals, but also for the professionals who are already in the field, who must permanently seek their updating. Studies such as this should be pursued to contribute to the visibility and influence of information workers, but also accountability and commitment to the profession and its impact on higher education.

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Keywords: *information skills, higher education, information professionals*

Student Perception of Online Information Literacy Training through a Massive Open Online Course

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Objectives

Various studies have identified fundamental deficits in information literacy (IL) skills of students (e.g. DaCosta, 2010). Massive Open Online Courses (MOOCs) are freely available online courses with no entry barriers aiming at unlimited participation (Gore, 2014). Meanwhile there is a growing number of MOOCs aiming to facilitate IL skills (Dreisiebner, 2019). A recent example of a MOOC to promote IL for students is *Information Literacy Online* (ILO). The multilingual ILO MOOC is structured in six generic modules and is designed to be attended self-paced without instructor presence. This study aims to examine how students perceive online IL training through MOOCs, based on interviews of participants of the ILO MOOC.

Methodology and Outcomes

Ten students of the University of Hildesheim in Germany were interviewed after they attended the ILO MOOC using semi-structured interviews. The questions focused on how the students perceive the content and user interface of the ILO MOOC and how students perceive learning of IL through a MOOC in general. The data obtained was transcribed and analyzed using a summarizing content analysis (Mayring, 2000).

The results show that students especially valued content on information searching and scientific writing, like introductions into literature databases and bibliographic software. Contents on how to deal with social media were perceived as less relevant and too basic. Regarding the instructional design of the MOOC the students especially valued parts where a common persona was introduced whose information problems defined the content and examples. The availability of practical assignments and exercises within the MOOC was perceived well, although the students would have liked more exercises and less theoretical learning content. From a general perspective the students perceived IL as valuable for their studies, but less for their daily life or future job. The approach of learning through a MOOC was especially valued for being flexible in terms of place and time. The results provide avenues for improving the ILO MOOC and for other existing and future IL MOOCs. The explorative nature of this interview-based study also opens avenues for future survey-based follow-up research including a larger sample of participants.

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Keywords: *information literacy, online learning, MOOCs, student perception*

Fake News: Has it Changed UK Academic Librarians' Ideas about Teaching Information Literacy?

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This paper presents findings from a qualitative research study investigating librarians' views about the impact that fake news had on their conceptions of Information Literacy (IL) and on their pedagogic practice. Writers such as Cooke (2018) assert that librarians are best placed to tackle the problem of fake news, with librarians positioned as having a civic duty to respond to the fake news discourse (Batchelor, 2017, p.143). However, Fontanin's (2019) analysis of official policy documents identified that libraries and librarians were not seen by others as having a significant role. Library literature is also primarily focused on librarians' role in educating users to avoid fake news, rather than on wider policy issues (Fontanin, 2019, p. 232). Rochlin (2017) comments on the need for the library profession to engage in dialogue about fake news, and this research responded to this, by surfacing librarians' perceptions. Semi-structured interviews with seven librarians at a university in the United Kingdom were undertaken in 2018. The interviews, which averaged 43 minutes, were audio recorded, transcribed, and analysed thematically.

Findings included the following: (1) Fake news was not viewed as something new. It was appreciated that it could be used as a topical "hook" to engage learners, but was seen as part of a broader discourse on critical thinking and evaluation skills. In some cases it had emboldened participants' approach to professional practice, but there was little evidence that they viewed Fake News as substantial enough to be addressed as a standalone topic. (2) The assertion that librarians were best positioned to tackle or respond to Fake News was overwhelmingly questioned. Participants felt that that other stakeholders might be better positioned to make an impact. Participants were also aware that they themselves might be in a filter bubble or might lack neutrality. (3) A tension emerged between the importance of IL as part of people's jobs, and participants' differing views on the usefulness of the term IL (e.g., Interviewee A "I hate the term"), with concerns over its applicability and recognition outside of the library and information profession. (4) The research surfaced the challenges faced by academic librarians, that may prevent them from taking a more assertive and strategic or lifelong learning approach. These included lack of embedded teaching, limited student contact time, and the balancing of teaching with existing workloads.

In conclusion, the Fake News discourse did not emerge as having a major impact on participants' conceptions of IL and the way they taught it. However, it revealed pressures, ambiguities and tensions affecting participants' pedagogic practice. The theme of participants' "Critical Reticence" was identified, based on a perception of how, and in what manner, different interviewees responded to certain questions, particularly around the topic of IL. This was coupled with evidence of professional frustrations and concerns over professional recognition. We contend that it is important to recognise these practical issues and concerns when planning librarians' wider role in combatting misinformation.

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Keywords: *fake news, academic librarians, information literacy, pedagogy*

Secondary School Teachers' Attitudes to Information Literacy in Hungary, Lithuania and Poland

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This paper summarises results of a survey that was administered to secondary school teachers in Hungary, Lithuania and Poland to acquire a picture of their awareness and attitudes toward information literacy education and to see a difference between countries. The countries have similar Information Literacy (IL) activities development history and only slightly different systems of education.

In 2018, the authors of this paper began work on investigating the possible prerequisites of coupling IL theory with school pedagogy. Our approach is based on the application of constructivist pedagogical views and the state-of-the-art definition of IL, according to which it is “the ability to think critically and make balanced judgements about any information we find and use.” (CILIP, 2018). We have chosen this definition, because it comprises not only information literacy itself, but media literacy, digital literacy, information and information literacy (MIL), as well as data literacy.

The survey has been distributed among teachers of various disciplines and working with students in classes 9-12. The survey included not only questions, related to IL, but we also asked the teachers if they ever heard about media literacy. Administering this survey was preceded by a pilot survey among Lithuanian teachers on a sample of 102 participants in the Spring of 2018. The pilot demonstrated that the questionnaire is consistent (Grigas et al., 2018).

The study was conducted in the form of a survey using Computer-assisted web Interviewing (CAWI), with data being gathered via an online survey tool IKA.SI. Data collection started on 4th of February 2019 and came to an end on 4th of May 2019. The questionnaire was sent to teachers from the top 250 secondary schools (according to Lithuania, Poland, and Hungary rankings of secondary schools). By the end of the survey period, data was gathered from 801 teachers of various disciplines: 215 from Hungary (HU), 378 from Lithuania (LT), and 208 from Poland (PL).

SPSS was used to analyse the data set. Cronbach's alpha based on standardised items is 0.980 (N 801). Chi-Square tests, at 0.05 significance level, were conducted to find out a correlation between countries on various aspects of IL implementation at secondary schools and teachers' opinions on IL.

The results were analysed by three perspectives: familiarity with the concepts, experience and knowledge acquired on IL, and preparedness to teach IL. Statistically significant differences were present between countries in all items.

We see that the majority of teachers from all three countries say they are familiar with the concepts. However, in Lithuania half of teachers think that IL skills are the same as library skills. More than half of respondents from all three countries think IL is the same as Information and Communication Technologies. Almost none of the teachers agree that librarians can teach IL skills. They see a librarian just as a partner/assistant. Respondents think it is a responsibility of the teacher to teach IL. Most of the teachers say they teach IL skills during their subject lessons. Though most of the teachers admitted they are not prepared to teach IL and need an additional course or to learn by themselves to teach IL skills. More than a third of all teachers expect that students coming to secondary school already have good information skills.

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Keywords: *information literacy, teachers, secondary school*

Temporal Aspects in Museum and Library Professionals' Work in the Context of Acceleration of Social Time

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According to various polls, museums and libraries are considered two of the most trusted institutions in society (Marcus et al., 2017) and librarians hold the reputation of a highly reliable professional group ("Librarians in top," 2018). However, the impacts of accelerating social time have recently been discussed in the scholarly world: referring, amongst other things, to the constant time-pressure that hinders well-considered decision-making (Eppler & Mengis, 2004; Levy, 2007) or increasing 'decay-rates' of previous knowledge (Rosa, 2013, p. 7). As there are evident transformations in information practices, we also need to discuss certain time-related issues in the context of information literacy (IL). These issues include the afore mentioned time-pressure and, also, multitasking and constant interruptions. As museums and libraries are not left untouched by these changes, and we can undoubtedly consider professional tasks performed in these institutions as information intensive, both museums and libraries provide us with handy insights on information practices and IL in the context of acceleration of social time.

I address four main research questions in this paper:

- How do museum professionals and librarians in Estonia perceive the acceleration of social time through their everyday work processes?
- What they perceive is the impact of the accelerating social time on different activities conducted for and with visitors to museums and libraries?
- What kind of tactics do they apply to cope with their fast-paced work life?
- In terms of IL, what are the critical aspects we need to consider in the workplace context?

This presentation is the first in a series of studies planned for a recently started post-doctoral project. The project involves conducting semi-structured interviews with a dozen librarians and museum professionals in Estonia and analyzing the interview data by applying the principles of constructivist grounded theory (Charmaz, 2014). The preliminary results indicate differences in planning not only a workday but also the 'yearly work cycle'. These differences stem from the position and tasks of the professionals, the variety of tactics they employ to protect themselves, and the quality of tasks in the context of 'optimization.' These considerations provide us with an additional layer of interpreting the application of IL: awareness of time related issues in the context of information intensive tasks.

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Keywords: *libraries, museums, social acceleration, temporal aspects of IL*

Measuring the Relationship between IL and Course Grades

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What is the relationship between a student's ability to use information and their ability to learn? There are strong theoretical ties between using information and learning (Bruce, 2008). Yet, difficulties remain in teasing out the contributions of information literacy (IL) to disciplinary student learning that have led some researchers to focus on either broad measures of student success, such as grade point average (GPA), or very specific measures of performance at the assignment level. Given the number of variables that inform GPA, the broad approach may not present compelling evidence for the degree to which IL impacts student learning. Conversely, examining specific course assignments to determine the relationship between IL and student learning may be of such small scale as to be uninformative to broad applications, as well as difficult to replicate in different disciplinary or institutional contexts. Through deploying a newly developed survey instrument, our research investigates the relationship between IL and student learning by correlating students' perceptions of their ability to use information to learn with course grades as well as their motivation and perceptions of the learning environments.

This research builds from previous studies that found a relationship between how instructors reported tasking students to use information in their course and students' course grades (Flierl et al., 2018). The instrument we developed for use in this study is based in informed learning pedagogic theory (Bruce, 2008), allowing students to self-report their confidence in their ability to: (1) use information; (2) build on previous learning experiences of using information; (3) use information and disciplinary content simultaneously; and (4) use information and disciplinary content in new ways. Preliminary findings from a dataset including responses from 6,791 unique students (42% response rate) are presented, including exploratory correlations found between student self-perceptions of using information to learn and course grade. While commonly used in educational settings, there is recognition that grades are an imperfect measure of learning; therefore, the research also examined other indicators associated with greater student learning, including motivation, and autonomy-supportive learning environments (Hsu et al., 2019). This strategy for measuring IL allows researchers and educators to make more meaningful inferences across large datasets about the relationship between IL and course grade, an important indicator of student achievement and success. It also measures IL in disciplinary contexts, providing actionable data to instructors for how IL plays a role in their disciplinary classroom.

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Keywords: *student learning, assessment, student success*

Literacy for Democracy: What Can Information Literacy Learn from Legal Literacy and Vice Versa?

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The paper, "Information Literacy as a Right and a Duty: The Experience of the Czech Republic", presented at ECIL 2014, outlined the brief history of implementing various literacies into Czech educational curricula and uncovered the three major public policy-making stages underpinning such an implementation. One of the three stages relates specifically to the legal system. At ECIL 2016, the paper, "The end of information literacy (?)", followed with an analysis of the legal system and its relationship to information literacy. The current paper aims to go further in its analysis of legal literacy and the relationship between information literacy and legal literacy. Legal literacy is presented with respect to the development of the concept of law awareness in the theory of law and sociology of law. Three levels of legal literacy are highlighted: (1) legal awareness; (2) professional legal literacy; and (3) academic legal literacy. The paper also investigates whether or not information literacy and legal literacy can influence one another in the context of human rights and active citizenship in the Czech Republic.

Substantial research (Behrens 1994, Horton 2002, Catts, Lau 2008, Sturges, Gastinger 2010, Catts 2013 etc.) has argued that information literacy should be considered a basic human right in pursuit of active citizenship. The Czech constitution gives all people specific rights, including: (1) everyone is free to do whatever is not forbidden by law, and (2) nobody can be forced to do whatever is not dictated by law. The same constitution gives the public sector specific responsibilities, including: (3) the public sector must act within the law, and (4) as a consequence of (3), the public sector must respect (1) and (2), above. This has significant constitutional implications for information literacy. In particular, citizens cannot be assumed to have a higher level of education than is required and guaranteed by law. The public sector then is, in fact, obliged by the constitution to provide information targeted only at this particular educational level. In practice, few, if any, in the public sector appear to be aware of this constitutional obligation. The question arising from this constitutional obligation then becomes whether or not the Czech education system adequately prepares citizens to understand public information made available to them and whether or not that information is presented to citizens by the public sector in a form they can comprehend.

Legal literacy then extends the question of whether the area of law and the legal system are comprehensible to citizens. The relationship between information literacy and legal literacy is also determined by the extent to which laws are regarded as information. Legal literacy also extends the question of whether or not, and to what extent, promoting information literacy as a human right should imply that the public has a right to a comprehensible legal system and laws followed by a reasonable expectation to be aware of them. This paper aims to seek answers to those questions through a comparative analysis of various literacy concepts and their use in Czech public policies.

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Keywords: legal literacy, information literacy, law awareness, theory of law, access to information, citizens' rights, human rights

Promoting Lifelong Information Literacy throughout Schooling: The Role of Dispositions

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The Framework for Information Literacy (Association of College & Research Libraries (ACRL), n.d.) posits a connection between a person's ability to become information literate and their dispositions or "tendency to act or think in a particular way" (p.3). The concept of personal characteristics, or dispositions comes from Educational research where it has been studied by those interested in teaching critical thinking skills (Dwyer et al., 2017). The Framework document lists between five and eight dispositions that are purported for each of the six frames, claiming some connection between the mental habits and concepts held by the information literate person and the knowledge practices used in each frame.

The present project used the recently developed Threshold Achievement Test for Information Literacy (TATIL) by Carrick Enterprises as a basis for understanding the dispositions in a United States university setting with students enrolled in a one-semester personal information management course. The students came from a wide cross-section of educational experience, ethnic backgrounds, and ages. The questions asked were: Do the dispositions vary across any of those factors? Did prior exposure to information literacy instruction affect student performance on the test? Can dispositions be predicted and used for planning instruction? Preliminary analysis has not shown a clear connection between demographic factors and dispositions in the sample but some deeper work remains to be done.

The inquiry was based on a research-based model proposed by Annemaree Lloyd (Lloyd, 2017) that combines the conceptualization of information literacy derived from research on information behavior and the work done by practitioners on information literacy instruction. Instructional assessments have focused on practical skills while researchers have concentrated on demonstrating how people work with information through everyday life contexts such as work, play, and health issues. The Framework strives to instill a lifelong information literacy that will apply in all contexts. Is the linchpin of that outcome contained in transforming student dispositions rather than in concentrating on skills? If so, how can information literacy instruction be created that attends to the dispositions in a way that will ensure that people will be able to access and use information at any point in their lives.

Attendees will learn about the TATIL test, threshold concepts, and student dispositions. The presenter and the audience will work through an exercise together to design teaching that understands the role that dispositions play in developing information literate people in all contexts.

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Keywords: *information literacy, dispositions, lifelong learning*

Aligning Expectations: Exploring Librarian and Teaching Faculty Perceptions of Information Literacy Sessions

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Introduction

There has been a long-standing relationship between the Library and the general studies program at Zayed University. Each semester each section of the course, *GEN120: Life Skills*, is paired with a librarian for an information literacy (IL) session to assist students in finding quality information sources for their semester project and provide a brief introduction to the Library. Each semester the library and course coordinator negotiate feedback from both librarians and teaching faculty regarding these sessions. Thus, the aim of this research was to understand what is happening in classrooms, what each side believes *should* be happening in classes, and clarify expectations and learning objectives for the IL session.

Methodology

Data for this case study was collected using an online survey distributed to librarians and teaching faculty after their scheduled information literacy session during the Spring 2019 and Spring 2020 semesters. This survey was distributed twice so that data collected during the Spring 2019 semester could be used to inform changes in the librarian-lead IL sessions in subsequent semesters. After changes were implemented, this survey was conducted a second time to assess the effects of these changes and their influences on librarian and teaching faculty perceptions of IL sessions. Between the two semesters of data collection, there were 17 surveys completed by librarians and 21 surveys completed by teaching faculty for a total of 38 surveys completed.

Data was analysed using comparative methods to establish relationships between variables that were perceived to affect expectations and perceptions of IL instruction. Comparative analysis focused primarily on explanations of similarities and differences of the following variables: (1) participant's identity of the librarian or teaching faculty; (2) the semester in which the research was conducted; and (3) whether expectations of IL sessions differ from the pre-determined learning objectives and course outline created for the sessions.

Findings

Initial findings in this research indicated that teaching faculty were pleased with librarian-lead IL sessions, however, fewer than half of the teaching faculty had completed the survey, so these data were incomplete. The second round of data collection focused on whether initial areas of concern had been addressed by changes made to the curriculum and communication between coordinators and the librarians and teaching faculty.

Findings from both rounds of research have contributed to a better understanding of the purpose of these sessions, improved relationships between the library and the department, and assisted in mapping IL learning outcomes in the general studies curriculum, beyond individual classes. The findings from this research contributes to literature regarding librarian/teaching faculty collaborations. This includes a discussion of how learning objectives for an IL session must be explicitly linked to learning outcomes in a course, to balance expectations of student learning in collaborative sessions between libraries and academic departments.

Keywords: *information literacy instruction, partnerships, collaboration*

Academic Integrity of Undergraduates: CETYS University Case

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The aim of this paper is to report the academic integrity (AI) challenges and opportunities of Centro de Enseñanza Técnica Y Superior (CETYS) University, as well as the outcome of an international survey on the subject of which the institution took part. The AI study, named Academic Motivation and Integrity Survey-Spanish (AMIS-S), led by Jason M. Stephens (2019), included 95 questions to "... assess a wide range of students' perceptions, beliefs, and behaviors related to academic motivation and integrity institutions grouped into nine "academic behaviors" during the past year. The questionnaire was sent to all CETYS students (2,530), except those who were in their first undergraduate year, and 376 fully responded it. AI is a critical topic in education, especially at higher education institutions (Franco Pérez, 2017), where students have to demonstrate respect for intellectual property in their writings and in other means of knowledge construction. CETYS has promoted an institutional information culture where a compulsory eight credit information literacy (InfoLit) course is an important component of undergraduate curricula. The InfoLit course includes an ethical use of information unit on how and when to cite, include a bibliography, or add a reference. CETYS has, on the other hand, regulations about student behavior, but academic dishonesty is only mentioned generally. Therefore, CETYS was open to assess the integrity skills of undergraduates to evaluate somehow the impact of the InfoLit course. The AI study was conducted in Mexico by FIMPES (Federación de Instituciones Mexicanas Particulares de Educación Superior), the National Association of Private Universities, including four other universities. The survey results showed, for example, that student disapproval for academic dishonesty was low (nearly one third), while 85.0% reported that they were involved in at least one dishonesty action of the nine actions mentioned, ranging from lower impact actions to serious actions. Low impact actions included working on a project with other classmates when the professor asked students to work individually (60.4%), or paraphrasing or copying texts without citing the source (54.3%). The most serious impact actions included buying or using homework completed by others and presenting in class as their own (12.8%). These results are along with the recently reported by Burgason, Sefiha and Briggs (2019) and are comparable to the studies conducted with similar methodology by Stephens, Romakin and Yukhymenko (2010) in the United States and Ukraine. These results clearly indicate that CETYS needs to create guidelines and further develop procedures to motivate academic integrity among their undergraduates and faculty who are responsible of reinforcing the value of honesty.

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Keywords: *information literacy, ethical use of information, academic integrity, academic honesty, cheating*

Do Not Steal This Article! A Study on Digital Piracy among Students

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According to Information literacy competency standards for higher education (2000), an information literate student understands various issues associated with access to information and uses information ethically and legally. Nevertheless, the literature on digital piracy suggests that illicit acquisition behavior is increasing. Therefore, libraries and educational institutions should put more effort in educating and promoting awareness of this issue. Attitudes and behaviors of individuals towards digital piracy are influenced by various factors such as cost and availability of the products, income level, moral beliefs, legal awareness, and metaliteracy (EUIPO, 2019; Iskra & Florjančič, 2018; Walls, 2008; Sahni & Gupta, 2019). The biggest problem is that, even though people usually know that piracy is illegal, they still access, download, and distribute this type of content (BSA, 2016; Iskra & Florjančič, 2018; Yu, 2013; Sahni & Gupta, 2019). What is more, when people access materials and acquire products they do not always distinguish between legal and illegal sources and are not necessarily aware of their unlawful acts (Czerniewicz, 2017; Sahni & Gupta, 2019). While Krawczyk et al. (2014) claim that ethical concerns about online piracy do not significantly differ between various subpopulations, Czerniewicz (2017) noticed that students distinguish between pirating learning materials and other content such as music and movies. We were especially interested in this phenomenon and therefore carried out research where we wanted to examine why, when, and in which circumstances students use pirated content. We also want to find if there is any difference in attitudes and behavior toward illegally accessing materials intended for different purposes. To answer our research questions, we conducted an online survey with Slovenian students in January 2020. Although the sample is not representative, the results offer important insight into students' practice of digital piracy. The strongest motivation for illegal acquiring materials is the cost and convenience, especially when students need learning materials and content for personal use. Similar to other studies, we found that students usually recognize the illegality of their actions, however, they sometimes perceive the actual access to the material as more important as the acquisition method. What is more, students do not always realize that they are using materials from illegal sources. Therefore, educational institutions and especially academic libraries should make more effort in promoting their services and raising awareness about digital piracy and help to develop a more ethical and moral society. Although the result of this study cannot be generalized due to the small sample size and nonprobability sampling, our findings offer a good basis for a larger investigation that would also include different research methods, such as focus groups and interviews.

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Keywords: digital piracy, students, libraries, information literacy, education

Teaching Information Documentation in a “Post-Truth” World: A Challenge for a Critical Education

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Recent protest movements including (yellow vests and those protesting pension reform, transport strikes, and climate change) have brought to the fore the issues of misinformation, alternative facts, and so-called fake news (Vanbremeersch, 2018). At a time when people have less confidence in media and institutions, teaching information-documentation is a challenge for teachers and teacher librarians concerned with critical information culture. When there is easy access to all kinds of content this calls for reconsidering the concept – and the approach – of information culture in a broader and strong sense (Hollis, 2019).

Information education has long focused on information retrieval, supported by competency frameworks, with a strong emphasis on information evaluation. Cross-checking information, reflection on its quality and relevance remain central; but when emotions, desires, beliefs come into play, new needs are emerging, pointing towards critical analyses and strategies. These needs call for strategies that are less dependent on media frameworks and representations (Kellner & Share, 2007) and not limited to thinking techniques, but approaches that should question preconceptions, stereotypes, and relation to texts. They should pay attention to the regimes of truth, taking into account the context.

While information-documentation, as a field of practices, is not a discipline in France, recent official documents (*collège* since 2016; *lycée*, 2019) introduced “Information and Media Education” (IME) in disciplinary programs, in a formal but fragmented way. Regarded as a necessity in the post-attack context, it is included in the “Citizen Pathway” in support of Moral and Civic Teaching (EMC), then designed to enable students to develop citizen media practices. This emerging focus appears also in the new subject, “Digital Sciences and Technologies”, created in 2019 (*lycée*, *Seconde*) that encourages a thoughtful and reasoned use of digital technologies.

How do teacher librarians and teachers deal with Information and Media Education in this context? This paper explores what it means, in a so-called post-truth world, to be critically educated about information, documents, and media that are essential to be an informed citizen.

To answer these questions, we relied on part 2 of an ongoing qualitative research project in French secondary education (*collèges*, *lycées*). The objective of this project is to study current changes in the field of Information and Media Education in today's digital world. For this paper, we paid particular attention to info-documentary training sessions, observed with a comprehensive approach over time in a few selected schools. To this end, we discuss observations in terms of constructive pluralism, according to an *a posteriori* methodology, in which the researcher is in an inquiry process, attentive to the meaning of emerging dynamics. After presenting the context of the study, and defining the concepts of fake news and critical (information) education, we will question the potential and the limits of these training sessions.

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Keywords: *information culture, fake news, “post-truth” world, protest movements, critical information education, informed citizen*

Information Literacy for Graduate Employability. Discourse Differences and The Way to Go

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Purpose

Our previous research of domain analysis of fields of Information Literacy and Graduate Employability has shown that those domains are almost not connected at all, with the only overlap in a field of Education (Bušelić & Banek, 2018). On the other hand, in both Information Literacy and Graduate Employability, terms like “skills” and “competences” are frequently used, obviously, in different contexts. In order to understand the reasons of this context mismatch, we conducted further research on the specific use of those terms in both domains. If Information Literacy as discipline is going to be more concerned about youth employability issues, there is a need for guidance on how to approach this, as previous research showed, in this rather different domain.

Methodology

In order to identify the structure and dynamics of scientific research in the two domains we performed the following analysis of scientific citation bases WoS and Scopus over the time period spanning 1980 through 2016:

- Bibliometric analysis of scientific publications on topics of employability/graduate employability and information literacy, and
- Co-word analysis and visualization with accompanied keyword analysis of most frequently used terms in both domains.

Findings

The results of the research provide better understanding of discourse differences of usage of terms “skills” and “competences” in domains of Graduate Employability as well as in Information Literacy. In order to enable Information Literacy Professionals to focus their research agenda on youth employability, we provide essential descriptions of topics and concepts related to Graduate Employability, accompanied with recommended authors and readings.

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Keywords: *information literacy, graduate employability, bibliometric analysis, discourse analysis*

Students' Awareness about “News” Concept

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In recent years, news literacy has become one of the concepts that have been emphasized to enable information users to be critical of the news they have acquired from different environments and has become one of the important methods for fighting against fake news. News literacy is defined as the ability to use critical thinking skills to assess the credibility and reputation of a news item obtained from newspapers, magazines, television, or the Internet (Digital Resource Center, n.d.). However, when it comes to news literacy knowledge and skills, it is extremely important to understand the perception of news, as well as the extent to which individuals can distinguish news from opinions or advertisements. Accordingly, the research question addressed in this study can be defined as; “Are students able to distinguish news from opinion, fact, advertisement, or media?”.

The research¹ was carried out on undergraduate students with a quasi-experimental design method. For this purpose, the first-grade level students of Hacettepe University Department of Information Management were examined during the 2017-2018 and 2018-2019 academic years. In both years, the students were informed about the details of the study and those who wanted to participate the research voluntarily were included. The experimental group consisted of students who agreed to participate in the pre-test /post-test processes and 3 hours of a “what is news literacy?” training. The control group consisted of students who agreed to participate only in the pre-test / post-test. In 2017-2018 academic year, 32 students (experimental group: 20, control group: 12) and in 2018-2019 academic year, 38 students (experimental group: 16, control group: 22) participated in the research. In both years, the research design process was applied in the same way. This study focused on the pre-test and post-test performances of the experimental group students.

The purpose of the pre-test was to determine the level of knowledge and skills of the students included in the research before they were trained to distinguish the given concepts. We asked four questions to determine the knowledge of students in terms of defining news and their ability to figure out the differences between news, opinion, advertisement, or media. Pre-test was some sort of a baseline study, in which the knowledge levels of students before having the training aimed to be revealed.

After the pre-test, students in the experimental group received three-hours of “what is news literacy?” training. In the content of the training, the concept of “news literacy” was presented to the students and the definitions of news literacy, news, opinion, advertisement, and media were given along with some examples. The fact that news literacy has become a necessary literacy skill in today's information habitat was emphasized. After the training, the three-question post-test was administered to both experimental and control groups. The questions in the post-test were similar to those in the pre-test, aiming to assess students' ability to distinguish the given concepts.

The pre and post-tests were conducted online via Google Forms. In both tests, some true /false questions were included on distinguishing the definitions of concepts such as news, opinion, advertisement, media. One question asked students to marking the correct response that met the news definition among six content examples including columns, advertisements, and refutations. An open-ended question was directed to the students to help us understand how students define the news in their own words.

Preliminary findings showed that students in both groups can be considered successful in distinguishing the definition of news. However, it was also seen that they tend to perceive the columns as news, among other examples.

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Keywords: *news literacy, fake news, news, opinion, advertisement, media*

¹ Results presented in this paper are part of the Ph.D dissertation of İpek Şencan, carried out under the supervision of İrem Soydal at the Department of Information Management, Hacettepe University. The thesis titled “News Literacy Curriculum: Content Design and Evaluation of its Effectiveness” can be available at http://bby.hacettepe.edu.tr/akademik/ipeksencan/isencan_PhD_web_2.pdf

Gender Differences in Scientific Literacy and Career Choices: A Survey Applied in a Large Rio De Janeiro High School

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Background

Motivating teenagers for scientific careers, notably the STEM (Science, Technology, Engineer and Mathematics) disciplines, is a subject of unquestionable relevance in the present knowledge society. It can also be said that information literacy plays an outstanding role in the development of high schoolers' interest in science and technology. Certainly, some aspects involved in this concept of the role of information literacy as an autonomous behavior as well as reading and other cultural habits, can contribute to the interest in science and technology as prospective careers. However, efforts in that direction would encounter an intervening aspect, that would have to be taken into account in the high school environment: studies focusing on the gender issue show that teenage girls tend to feel less comfortable and less able to enter the STEM disciplines and are still inclined to opt for the called feminine professions, as it is the case of health and education (Wajcman, 2010; OECD, 2015). Considering these theoretical and empirical backgrounds, the research questions that we pose in this study are the following:

- are Brazilian male and female high schoolers being equally prepared and inclined to enter the scientific world;
- do they reveal similar information literacy competencies; and,
- do they feel equally autonomous and apt to choose STEM disciplines as a career?

Methods

To answer the above mentioned questions, we analyzed data obtained from a survey administered in 2019 to the population of high school students of a large public school in Rio de Janeiro. About 300 students answered a questionnaire focusing on these themes. Since gender differences should be considered in their context, we also considered sociocultural origin and racial identification of students as explanatory factors that help to explain the students' different option towards science and technology (Grossman & Porche, 2014).

Results

We expected that the results obtained in this study would help to bring about the relevant interplay that seems to occur between the information literacy subject and the diverse gender issues that impact society and limit women's opportunities. The emphasis on information literacy studies considering gender would contribute to overcome gender differences and promote STEM career choices for students with different gender, cultural, and social backgrounds.

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Keywords: *scientific literacy, gender and information literacy, high school study, survey*

Improving Way Finding in a UK Higher Education Institution Library

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ShelfMap, an online wayfinding tool, was the centrepiece of a case study that aimed to improve understanding of the information practice of students interacting with classification schemas in order to find material in the stacks. It measured changes in wayfinding skill levels resulting from the introduction of ShelfMap. Wayfinding using an online mapping tool is a prime example of the “doings” of information practice or the notion of information literacy as a socially enacted practice (Lloyd, 2012). In this case, the process of locating and retrieving items on the shelf. This presentation provides an analysis of ShelfMap’s introduction to a UK Higher Education Institution (HEI) library in late 2017.

The literature indicated a discernible problem that users face in both interpreting classmarks and understanding library layouts. It described a variety of techniques used to try to alleviate this, such as spatial syntax.

The research used a mixed methods approach with a specifically designed case study that incorporated an ethnographic element. The emphasis was on qualitative research techniques as it was determined that this would allow a more detailed focus on ShelfMap’s practical application in the field. The choice of sample, that will be further expanded upon in the paper, was drawn from the University’s undergraduate and postgraduate student cohorts at differing stages of their course. Thus, students potentially exhibited varying degrees of skill gleaned from experience. Six in-depth interviews were conducted, embedding a field exercise during which the subjects were observed finding material both with and without ShelfMap.

There was a 39% time saving to find the correct stack which held the item sought and a 33% time saving to find the item itself. In this study, locating the stack was found to be more difficult than finding the item itself, so this time saving is encouraging. A reduction in anxiety levels was also detected suggesting a more positive relationship was fostered between the students and their environment. “Look. I’m whizzing through!” was the response of one participant. During the field exercise, another stated “... I was able to find the book with such ease, and emotionally not feeling overwhelmed”. This is in stark contrast to feelings described beforehand about finding books such as “It’s a choreography of my brain and increasingly frustrated search for the elusive book.”

It was observed that course stage was of rather little importance in determining skill and that the novice user could become quite proficient in library wayfinding in a relatively short period.

An additional finding was that the digital and physical environments could be made to complement each other by the use of judiciously designed signage such as stack numbers. The paper will also explore the extent to which the research showed that ShelfMap is analogous to the well-established link resolver, used for retrieving online materials, and what lessons can be learnt from this.

There will be recommendations on how libraries can improve their wayfinding and boost students’ information literacy in this area. A promising avenue for further research is the finding that ShelfMap also benefits students who have declared a Specific Learning Disability and can lead to a more inclusive education experience.

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Keywords: *wayfinding, self-efficacy, impact*

Education 4.0 Framework and Influence of Technology on Students' Attitudes towards Digital Literacy and Employment

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Working in the changing world of education is both challenging and exciting. The world is changing at an accelerated pace and changes include sectors like technology, society, and education. Higher education, one of the last phases of one's formal education, sometimes presents the last chance for individuals to acquire knowledge and skills necessary for rapid employment. Millions of students around the world are participating in university study programs that are possibly outdated especially in the eyes of the technology sector pushing changes in the society faster than universities and governments can respond. Industry 4.0, Education 4.0 and Society 5.0 (or super-smart society) are new(er) buzz concepts present in media suggesting profound changes in many segments of lives of citizens of all ages but specially of those who are still part of the educational system. Industry 4.0 connects "advanced manufacturing techniques with the Internet of Things" (Deloitte). The Education 4.0 initiative aims to "transform primary and secondary education systems to ensure future-readiness among the next generation of talent" (World Economic Forum). The Society 5.0 is a term describing smart society as well as human centered society (Cabinet Office, Government of Japan). One cannot participate in any of these frameworks or initiatives without required knowledge and skills.

A research study was initiated to find out more about attitudes and opinions of students at the Faculty of Humanities and Social Sciences at the University of Zagreb, Croatia about digital literacy as the main vehicle for achieving employment today. Online (and paper) questionnaires was chosen as the research method to collect data from the students using convenience sampling to attract as many students as possible. The research instrument was used in previous research and was proved valid and appropriate.

The aim of the research was to analyze students' attitudes and opinions about their perception of digital literacy as the main vehicle for achieving employment today. The reason for our initiation of this research was the lack of data about students' understanding about the concept of digital literacy and related skill sets and how they perceive its usefulness in achieving their employment. The research focused on various aspects of digital literacy:

- cognitive and technical skills required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats;
- use of diverse technologies and internet services to search for and retrieve information and interpret search results; and,
- understanding the relationships among technology, lifelong learning, personal privacy, and appropriate stewardship of information (Becker, 2018; Kaeophanuek, Na-Songkhla & Nilsook, 2018).

Every year new generations of high school students enroll at universities in Croatia. While there are research studies about their general scholastic aptitude determining their success in the enrollment process, little is known about their perceptions of their future regarding their knowledge and skills. The results of this research would point students in the direction where they should be prepared in their final phase of education.

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Keywords: higher education, workforce education, education 4.0, industry 4.0, society 5.0, digital literacy, Croatia

Fostering Critical Thinking in an English Communication Class: a Plan for a Master in Tourism

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Research Problem

2016 was considered the “post-truth” year (‘Word of the Year 2016 is... Oxford Dictionaries’, 2016), a cornerstone in the study of the spread of disinformation in the digital context. Fostering global citizens’ right to “*Seek, receive and impart information and ideas in any media and regardless of frontiers*” (Universal Declaration of Human Rights, 1948) is a prerequisite to the making of active citizens, information-literate individuals with “*the ability to identify, locate, evaluate, organize and create, use and communicate information*” (IFLA FAIFE – Freedom of Access to Information and Freedom of Expression, 2012) – in other words, critical thinkers. Higher education is asked to react to this scenario.

Research Question

Kuhlthau et al. (2015), recommend that teaching information literacy (IL) and critical thinking requires a joint effort of different professionals and that learners be motivated activating the *Third space* (Maniotes, 2005). they must realize that what they are learning is connected to their real life, outside class. How far do experiences at higher education level take into account this approach?

Methodology and Application of Research Methods

Literature from databases (including ERIC and LISTA) were reviewed to retrieve and analyze accounts of post-2016 experiences of IL and critical thinking teaching at a higher education level. We looked for cases motivating learners and promoting media and IL skills (Grizzle & Torras, 2013) as well as awareness of “*the ethical use of information thereby helping to eliminate plagiarism and other forms of misuse of information*” (IFLA FAIFE, 2012). Particular regard was given to cases of collaboration between teachers and librarians.

Outcomes/Results of Your Research

Results of the analysis of the literature are presented and patterns in the literature are highlighted and compared to the experience of a workshop actually led in an English communication class and presented at BOBCATSSS2020 conference.

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Keywords: *critical thinking, English for tourism, geopolitics, misinformation, fake news, information and media literacy, third space*

Beyond Cultural Literacy: Building Introspective Information Professionals

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As populations become multiculturally diverse, information professionals are required to understand the needs of a diverse group of patrons. We must consider their cultural backgrounds, information needs, expectations, preferences, and challenges in order to assist them in making informed choices and becoming active participants in their community. This means that information professionals need to be culturally sensitive and skilled in imparting information literacy when working with multicultural patrons. However, due to the longstanding homogeneity of the field and systemic institutional norms, some information professionals lack a deeper understanding of effective intercultural approaches and strategies in spite of their excellent information literacy skills. Consequently, they struggle to empathize and effectively serve patrons who come from different or marginalized cultural, socioeconomic, and religious backgrounds. Efforts to encourage cultural diversity within the library and information science (LIS) field often fall short of their promise, and so the LIS profession remains predominantly white and female.

This study demonstrates how cultural literacy approaches can be applied to develop information professionals who would thrive in multicultural workplace settings. Cultural literacy is the ability to successfully interact with people from diverse backgrounds (Hirsch, 1983). It helps practitioners develop a critical cultural perspective (Flavell, Thackrah & Hoffman, 2013), reduces their potential blind spots and biases, and ensures equitable participation of patrons from all cultural backgrounds (Anning, 2010).

The preliminary findings from this ongoing study present the qualitative analysis of fourteen personal identity exploration narrative papers from a recent "Cultural Competence" online course. These exercises challenged students to navigate their cultural identities through a set of discussion prompts. The primary objective of this learning activity was to raise critical awareness on identity, privilege, oppression, and intersectionality through a critical social justice framework (Sensoy & DiAngelo, 2012). Findings reveal how students' understanding of identity, privilege, oppression, and intersectionality evolved by self-exploring their own cultural identity narratives; they suggest that students who examine their own cultural identity will likely act with more cultural sensitivity towards others. Findings also demonstrate the benefits of the cultural literacy approach in improving critical self-awareness, appreciating the advantages of self-reflection and self-critique in developing an increased sense of cultural humility in future information professionals (Chang, Simon & Dong, 2012; Hodge, 2019). Finally, the study emphasizes that culturally literate self-reflexive information professionals would be critical agents of change in efforts to increase inclusivity and help patrons become active participants in their community.

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Keywords: *cultural literacy, cultural competence, intercultural communication, diversity, cultural identity, inclusive education, cultural humility*

What Accounts for Estonian Student Science Literacy PISA Prowess?

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Scientific knowledge is a critical element in sound deliberation and decision-making, whether at the individual, local, or global level. Since 2000, the Programme for International Student Assessment (PISA) has been an important instrument for measuring educational effectiveness at preparing students to understand and use scientific information. Estonian students' PISA scores rank among the best in the world (OECD, 2019). This testifies to the quality and commitment of Estonian science education.

Despite disruptions that have beset Estonia since its independence in 1918, the country's education system has persisted in building on reforms that harken back to the early 20th century, a time of wide-ranging discussions in Europe about education theory, school curricula, and teaching practices. Estonia's educators eagerly embraced reforms and best practices and adapted them to their new nation's circumstances (Unt, 1985). During the interwar period Estonia's educators produced numerous new textbooks, curricula, and practitioner journals. Those educational innovations that emerged from Europe's reform pedagogy circles of the 1920s have continued to shape Estonian education (Andresen, 2003). Johannes Käis, an Estonian educator, established a reform pedagogy movement at that time for elementary school and science teachers. This movement, which remained active in Estonia until World War II, promoted age-appropriate, intellectual work of students and according emphasized to students' individual and group work in classrooms and outdoors (Käis, 1935).

Although the Soviets black-listed Käis, Estonian educators remained aware and committed to his innovations. As a result, Käis and his followers have influenced generations of Estonian teachers (Liimets-Sorokina, 1985). In 1990, the year before Estonia regained its independence, Estonian educators established the Käis Society in order to promote his principles and methods.

This research assesses information sources Estonia's science teachers have used since the early 20th century until today. We direct particular attention at the role that communities of practice (Lave & Wenger) have played in disseminating educational material throughout this period and their contribution to the quality of the country's science education. This is accomplished through analysis of science education material in publications, archives, the Internet, and information obtained directly from educators.

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Keywords: science teachers, PISA test, information sources, communities of practice, educator Johannes Käis

Digital Participation, Surveillance, and Agency: Insights into the Online Information Behaviours of Muslim Women in Muslim Society, and the Role of Digital Literacy to Manage Risk

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Objectives

The purpose of this paper is to provide insight into the social media related information behaviours of Muslim women in a Muslim nation. Studies of Muslim women's use of social media in western society identify an important role for information access, social connection, expression and activism, and positive portrayal of often stereotyped identity (Islam, 2019). However, there are limited studies reporting use from within Muslim nations and from the perspectives of the women themselves. This perspective is important as sociocultural factors are known to influence peoples information behaviours; and whilst there is some evidence of similar social media use as Western peers, there is also some evidence of societal control and constraints influencing use within Muslim nations (Abokhodair & Vieweg, 2016; Kaposi, 2014). This study sought to explore such issues further, and asked two key research questions: what is the everyday role of social media for Muslim women within a Muslim country; and in what way do sociocultural norms influence their associated information behaviours?

Methodology & Outcomes

Our study was qualitative and exploratory. Our theoretical framework was provided by Chatman (1996), who provided a framework for exploring potential 'small world' issues of information access and use. The study zone was the capital city of a majority Muslim nation within the Arabian Peninsula, and our participants were 14 Muslim women resident within the city. Our data collection method was semi-structured interviews, designed to explore social media related information behaviours, and influencing factors. Data analysis incorporated both deductive and inductive elements, with data disaggregated into meaningful categories via identification of patterns and regularities through iterative pattern coding and thematic analysis. Ethical approval was obtained via Institutional Ethics Committee, and informed written consent was obtained from all participants, who all participated voluntarily.

Our participants all identified as active everyday social media users with the most popular applications Snapchat, Instagram, Twitter, and WhatsApp. Participants discussed a variety of reasons for using social media: communicating with family and friends including platonic male friends difficult to communicate with in public; following the latest trends and lives of others including popular celebrities and bloggers; and as a source of news, health, and travel information. Several described social media as very important to their lives, providing an important connection to the outside world, and an important outlet for personal expression. However, all our participants discussed their use of social media as monitored by family, and in particular, by husbands and/or male relatives. We evidence and discuss the impact of surveillance on their social media use, and issues of emotional affect. All our participants discussed restrictive information behaviours either self-imposed and/or imposed by others. We also evidence responses to restrictions, and the role of digital literacy. Several used pseudonym accounts and carefully managed privacy settings to live parallel secretive lives under fake identities, but not without risk of social transgression. Findings contribute to our understanding of digital participation in a Muslim nation, and sociocultural influencing factors; and the role of digital literacy to circumvent sociocultural boundaries and manage risk. Findings also contribute to our conceptual understanding of the scope of digital literacy, evidencing important social, moral, and intellectual aspects.

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Keywords: *information behaviour, information poverty, digital citizenship, digital literacy*

A Framework for Information Literacy at North-West University, South Africa

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Higher Education Institutions meet society's requirements by producing highly skilled people. The institutions must empower students with various skills and abilities such as lifelong learning skills, enquiry, and research skills to carry out systematic investigation for finding solutions to complex problems, employability, and career development skills to succeed in the rapidly changing working place. Students entering the university have varying levels of information literacy (IL) skills. "Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (Association of College and Research Libraries, 2016). A study conducted by Yevelson-Shorsher and Bronstein (2018, p. 535) focused on three main stakeholders to consider in the framework of informational literacy: students, the teaching faculty, and librarians. IL skills need to be implemented in a direct way that has an impact on students and reinforces a skill set. Integration of IL instruction and curriculum is the key to successful student learning.

Different faculties and student support structures across the North-West University (NWU) are positioned to support students with their academic development. However, the different entities are also silos that have different perspectives. While there are efforts to support students collectively they function separately and have different rules and regulations. The outcome of these efforts is many times repetitive, duplicating, and costly. The goal is to bring departmental faculties and librarians together to improve student learning. A mixed research method will be adopted for this study. Questionnaires will be distributed to staff and students to establish current endeavours and to identify student needs. Two questionnaires will be employed. The student questionnaire will be used as baseline for this investigation. The staff questionnaire will address similar issues, but from a different perspective. Both questionnaires will include closed and open-ended questions. The findings from the questionnaires will be validated using data from the Student Information System (SIS) to come to an even better understanding of identified phenomena. Structured interviews will be employed to verify findings and clarify uncertainties. The questions will be aimed at determining what students think they need, what they do not need, what is already on offer and what could be developed and implemented as to support them better, as well as questions on the way in which matters/support activities are currently structured and managed. It will also provide insight in students' perceived abilities on, for example, reading, writing, information literacy, and computer literacy compared to lecturers' perceived ideas on student abilities. The research results are expected to provide an ultimate integrated framework for student academic development and support, acknowledging current endeavours and possible future pursuits as to further enhance LIS' current undertakings. The research also contributes to the established body of research and practitioners in the academic support environment. This study provides an integrated road map to include information literacy outcomes to higher education training as required from the South African Qualifications Framework (SAQA). The proposed framework will ensure collaboration and partnership between all stakeholders with a unified goal to support students' development and to address their needs.

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Keywords: *information literacy framework, higher education institutions*

A Framework for Implementing Mindfulness into Information Literacy Instruction: Strategies for Mindful Information Literacy

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Mindfulness is the process of actively embracing the moment in order to develop full awareness of current surroundings. Although mindfulness has been practiced for centuries by different cultures and disciplines, it entered the field of education only recently as a contemplative pedagogy (Zajonc, 2013). According to Nelson (2006), contemplative pedagogy can be defined as the integration of mindfulness practices into the classroom to facilitate a quality learning experience. This paper presents the Mindful Information Literacy Framework (MILF) for implementing the concept of mindfulness into IL instruction. It is the integration of findings from our recent survey of teaching strategies of North American academic librarians into a structure of mindfulness as described in the Information Literacy (IL) literature.

Despite numerous mindfulness studies, there is no consistent evidence on how to implement mindfulness into IL instruction. Therefore, we designed the following study to explore three key questions: (1) how do librarians provide library and information science (LIS) services in general to facilitate mindfulness? (2) What are the most current IL teaching strategies used by academic librarians, and (3) how can we integrate mindfulness into these contemporary IL teaching practices?

The process began with a comprehensive literature review on mindfulness in general and its integration into pedagogical practices and theories. We adopted the definition by Kabat-Zinn (2003) that there are three key nuances of mindfulness related to contemplative pedagogy: (1) paying attention on purpose; (2) being present in the moment; and (3) being non-judgmental. Each of these nuances consists of three elements for a total of nine different tenets. We then conducted a survey of the IL instructional practices of academic librarians in North America. The MILF integrates mindfulness into IL instruction based on the supporting literature, the definition of mindfulness according to Kabat-Zinn, and our findings of the IL teaching practices of North American academic librarians.

Six hundred librarians in North American academic institutions responded to our survey of their IL instructional practices in winter 2019. The questionnaire consisted of 11 questions in which we gathered demographic data, details about the learners they usually teach, location of instruction, types of collaboration they practice, and the instructional and assessment strategies they employ. Nearly half of the respondents (47.5%) worked at doctorate-granting universities, but librarians from other kinds of colleges and educational institutions participated. We integrated the array of strategies generated into the three nuances and nine tenets of mindfulness. Our criteria and decisions when constructing MILF are supported by the literature.

The findings of this study could be extended through a follow up qualitative research study where the nine mindful tenets of contemplative pedagogy are examined within academic librarianship. The authors hope this study will stimulate imagination, inspire others to move toward contemplative IL instruction, and will improve the performance and competitiveness of IL instruction and learning.

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Keywords: *information literacy instruction, mindfulness*

Creative Pedagogy and Information Literacy in Higher Education

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The definitions and theories that inform creative pedagogical practice are not universally shared and understood by all in the information literacy field. This paper explores the language around creative pedagogical practice. This paper will discuss preliminary results of a grounded theory study conducted with library information literacy instructors that revealed a need to develop a better understanding and definition of creative pedagogy in information literacy. The aim of the research/paper is to synthesize findings into a theory to better account for what explains the application of creative pedagogy in the teaching of information literacy. The paper will summarize preliminary research findings that addressed the varied considerations for employing creative pedagogy in the information literacy classroom, including the examination of a practical educational problem. It asked What does the application of creative pedagogy in information literacy mean for academic libraries? Is creative pedagogy necessary for the future of information literacy instruction in libraries? If so, why?

Theories of teaching and learning in other disciplines can provide opportunities for the library to adopt more flexible and “creative” approaches to implementing models of information literacy in the classroom. To the extent that the library engages in teaching, there is an opportunity to be more innovative and for students to be more engaged in their learning. With an increasing proliferation of technology across higher education campuses and the creation of new flexible and collaborative spaces, the library can play a central role in embracing changes to the way teaching and learning takes place and potentially change the conversation for the way the library teaches information literacy. This paper explores the need for information literacy practitioners to better understand these changes and practices in higher education as an opportunity to enact more holistically creative pedagogical practices in an attempt to address specific changes in higher education that point to particular student needs.

A brief exploration of the literature will demonstrate that there is little language in the library field that formally acknowledges creative pedagogical practice. What does exist is not widely adopted or understood as creative pedagogical practices by information literacy instructors in the academic library environment. While creative pedagogy is loosely defined, the literature confirms shifts in higher education and the academic library that represent an opportunity for librarians in the teaching of information literacy, specifically toward “creative” approaches to information literacy in a changing educational climate.

The results will show that creative pedagogy is often linked to varied definitions of creativity, constructivist principles, and both critical and reflective pedagogical practices, to explain traits that embody terms that are often synonymous with creative pedagogy. In ascertaining through the literature and the research a more concrete definition of and need for creative pedagogy, an argument is made for educators to better understand creative pedagogy as a mandated educational need. The paper will summarize the results of the research with the aim of uncovering the varied dimensions and concepts around creative pedagogy to inform information literacy best practices and its teaching moving forward.

Keywords: *information literacy and education, information literacy in higher education, information literacy in the future, information literacy and creative pedagogy*

Information Literacy as a Tool for Ethically Sound Judgement

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This presentation aims to provide a framework for rethinking the role information literacy has on our reasoning and decision making while dealing with ethically relevant issues. In the last thirty years media outlets have been evolving as a medium (McLuhan, 1994) and as technologies (Ellul, 1973), but the most impactful change came with the rise of social media. Social media have in the last decade become pseudo-outlets for information dissemination and their impact on journalism has changed our views on relevance of facts in decision making.

Since ancient Greek reflections on the link between knowledge and morals, ethicists and moral philosophers have been trying to expand on the issue, but all the advancements made in the debate are now being re-examined. Questions about autonomy, free will, freedom (Kant, 2002), and responsibility (Jonas, 1985) have to be reinserted into the contemporary “situation” because ethically sound judgements on some of humanities most pressing issues have been blurred by alternative facts and fake news. Ethically sound judgments are made through the process of “moral reflection” that consists of evaluation, decision-making, and implementation. The process of moral reflection happens instantaneously and is strongly based on our experience and knowledge. Therefore, a situation where information and facts needed to make an ethically sound judgement are unavailable can only have one of two outcomes: – we cannot make an ethically sound judgement or we make “partial judgements”. On one hand, this presentation will explore the inability to make ethically sound judgements when basic requirements for an action that could be called moral were not met. Most commonly these would be the situations where actions were based on lies, lack of predisposition to exert free will, and/or autonomy. On the other hand, the second explored undesirable outcome will be the cases of “partial judgements” where our reasoning was formally consistent but we did not have all the information to make them “sound judgements.” This latter case is best described through the example of “actions with delayed consequences”. These would be the practices that “make sense” at a given moment but do not consider all the possible outcomes and impacts in the future. Actions with delayed consequences have had some of the most horrifying effects on humanity as we know it such as the lingering radiation that killed millions even decades after the Second World War (Cullings, 2014), uncontrolled use of neonicotinoid pesticides that endangered worlds bee population (Blacquièrè et al., 2012), and the extermination of 40,000 elephants due to the misinterpretation of the desertification data in the seventies (Nordborg, 2016, p. 6), etc.

Alternative facts and fake news are current prominent examples of practices that hinder the possibility to make ethically sound judgements. The ability to locate, process, and critically evaluate information before allocating it, or using it in this case, is a fundamental skill in ethical reflections on contemporary issues. Therefore, informed by the thoughts of media and technology theorists and classical thinkers the conclusion of this presentation will focus on the applicability of information literacy as a tool in reaching ethically relevant judgement.

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Keywords: *fake news, alternative facts, ethical judgement*

News Consumption and Sharing Behaviors of Individuals in the Post-Truth Era

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It is now said that we live in a post-truth era, the most salient features of which are information overload, proliferation of ambiguous information, fractionated media landscape, increased polarization, heuristic thinking, and algorithmic bias. In this era, individuals increasingly believe information that appeals to their emotions and beliefs instead of information that is factual and objective (Cooke, 2018). Dis/mis-information has always existed, however, in today's increasingly complex information landscape, the amount and the speed of dissemination of ambiguous information is at an alarming rate (Vosoughi, Roy & Aral, 2018). Consequently, skills for evaluating the credibility of information/news, sifting fact from falsehood, understanding of search-engine rankings and of how algorithms cull and conceal content (Cisek & Krakowska, 2018), setting aside one's preconceived notions (confirmation bias), recognizing weak arguments and common traps in arguments, disclosing affiliations and conflicts, and developing fact-checking abilities gradually become indispensable components of information literacy instruction.

The main aim of this study is to investigate news consumption, news production, and sharing behaviour of young individuals to find out about the general patterns of news use and delivery as well as needs for training and gaps in critical approach to news. Empirical research in this field seems to be increasing and data in hands have indications that, among other factors, cultural differences, country specific conditions, education level and the age of individuals might have an impact on news behaviour (see Gottfried & Shearer, 2016; Silverman & Singer-Vine, 2016; Nic Newman et al., 2018; Head et al., 2018). However, more empirical data is needed from different countries and education and age groups to reach sound conclusions. Findings of this study, exploring news behaviour of university students in Turkey, is expected to contribute to the existing research findings in the literature, in this regard.

A quantitative method will be used and data will be collected through a survey instrument. A minimum of 500 university students will be selected based on the convenient sampling approach to receive the survey. It is expected that findings of this study will fill in a gap regarding empirical data about how Turkish university students engage with news. Recommendations drawn towards the development of information literacy instruction are expected to be useful beyond the borders of the country.

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Keywords: *post-truth, news literacy, fake news, critical thinking, information behavior, news behavior*

How to Measure Information Literacy? An Evaluation Based on Expert Interviews

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In view of the constantly growing amount and complexity of available information in today's digital age, the ability to search, find and use information effectively is becoming increasingly important (McGeough & Rudick, 2018). Due to widespread disinformation, today's challenge in information seeking is no longer to gain access to information, but to navigate in the complexity of different information and evaluate them regarding their credibility and validity (Zarocostas, 2020). While the importance of Information Literacy is acknowledged in the literature, the question of its measurement remains rather unresolved and particularly challenging (Graham et al., 2018).

This paper reviews the literature and outlines a representative overview of approaches to Information Literacy assessment. In this context, measurement methods, costs and efforts as well as the meaningfulness and limits of the individual approaches are stated. Building on that, the work provides a detailed evaluation of existing approaches and instruments by gathering the perspectives of 15 experts. Semi-structured interviews were conducted with German, American and Canadian experts from information and library science. The data obtained was transcribed and analysed using a qualitative content analysis (Mayring, 2000).

The results largely confirm the state of research, including the challenge of finding a consensus on how to approach Information Literacy measurement. By deducing an estimation of the currently available standard instruments, achievement and performance assessment approaches are compared. It has been shown that achievement testing is meaningful in American Information Literacy assessments, but not so widespread in Europe. Additionally, the development of Information Literacy assessment in the future is a major focus. In this regard, aspects such as so-called cognitive heuristics in the context of measuring Information Literacy are addressed. It becomes apparent, that existing methods to assess Information Literacy do not sufficiently consider such factors. Suggestions for the improvement of evaluations are discussed. The expert opinions contribute to a target-oriented application and further development of Information Literacy assessment tools.

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Keywords: *information literacy, assessment, measuring instruments, qualitative research, expert interviews, cognitive heuristics*

Mis/Disinformation across Disciplines: U.S. Faculty Perspectives

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While mis- and disinformation are not new issues, attention to its proliferation, and scrutiny of its impacts on individuals and societies has increased with the recognition of the influence of mis/disinformation on successive United States presidential elections, the Brexit vote, other elections and ballot initiatives worldwide, and the spread of the COVID-19 pandemic. In 2013, the World Economic Forum identified mis/disinformation as one of the top three global threats (Howell, 2013), and in its 2019 report, the Forum elaborated to recognize that “among the most widespread and disruptive impacts of AI in recent years has been its role in the rise of “media echo chambers and fake news” (World Economic Forum, 2019).

Libraries, which have long been proponents of information literacy, were quick to see a role for themselves in confronting the impact of mis/disinformation through increased education. However, some academic librarians within the United States, who typically depend upon faculty invitations to provide information literacy instruction, have seen their efforts to address mis/disinformation on a wider scale somewhat stymied.

This paper explores faculty attitudes toward the challenges and threats of mis/disinformation across disciplines. The study surveyed over 700 faculty in the United States across disciplines, examining their concerns about mis/disinformation both in general and within their fields, and whether and how they incorporate attention to mis/disinformation in their instruction. The survey was supplemented by 8 follow-up interviews by faculty in different disciplines. Although response rates were low, the findings establish a baseline of information about how faculty are thinking about mis/disinformation. The study shows that while the vast majority of faculty agree that the mis/disinformation is a problem and that instruction in news literacy skills is important, they vary as to whether they believe it is their responsibility to teach those skills. The findings also suggest that some disciplinary differences exist in terms of how faculty engage with mis/disinformation.

Very few faculty report working with a librarian to address mis/disinformation in the classroom. One reason for the perceived lack of interest in or attention to mis/disinformation may be that, in many cases, discussion of mis/disinformation and instruction on its evaluation, is often approached from a generic, rather than a discipline-specific, standpoint. As a result, some faculty may view these issues as generally important but only tangentially related to their discipline or specific teaching areas. These findings align with previous research has suggested that while faculty understand information literacy as a generic set of skills, they perceive differences in conceptualization and implementation of these skills within their disciplines; differences that they do not always see reflected in library instruction (Saunders, 2012). The study concludes with recommendations for instruction librarians to approach discipline faculty and initiate conversations to integrate instruction on mis/disinformation across the curriculum.

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Keywords: *mis/disinformation, academic libraries, united states, discipline-specific instruction, discipline approaches*

Creating News: An Activating Approach to Make Children News Literate

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A literature study by Van Helvoort and Hermans (2020) claimed that allowing children to create their own news messages is an effective approach to teach them how to distinguish between reliable news and fake news. With this knowledge in mind, three students of the Teacher Training Primary Education programme at The Hague University of Applied Sciences were asked to develop five lessons concerning fake news and to design quizzes for each of those five lessons. The students delivered 'Educational Route Forms' with preparations and explanations for each lesson, five PowerPoint presentations and five public Kahoot! quizzes which consisted of true or false questions. They taught their own lessons under the supervision of a primary school teacher and one of their own lecturers from the university over five weeks at an elementary school in Rijswijk, which is a suburb of the city of The Hague. The class consisted of two groups in their final years at elementary school (28 children, most of them 10-12 years old).

Research Questions and Methods

To find evidence for the assumption expressed in the literature review we developed three research questions:

RQ1: To what extent did the children make progress in the recognition of fake news?

RQ2: What and how have children learned according to themselves?

RQ3: What and how have children learned according to the primary school teacher who coached the students?

To answer RQ1, a Friedman test was carried out based on the scores of the five Kahoot! quizzes. RQ2 was answered using the results from a survey among the children after the fifth lesson and RQ3 was answered using the input during weekly meetings through Microsoft Teams with the researcher, the primary school teacher, the student coach and the students themselves.

Results

The Friedman test indicates that the children did indeed make progress over the course of the study, with the results at week 5 being significantly higher compared to those measured in week 1. Every lesson had a specific topic: 1) checklist for recognising fake news, 2) checking news sources, 3) picture manipulation with Adobe Photoshop Mix for iPad, 4) writing a news article and 5) creating a video in iMovie. The lessons in which the children worked with the photo or video app were most appreciated by them (25 out of 28 answers). But when the children were asked from which of the lessons they learned the most, each of the five topics was mentioned at least four times (N=27). In general, it can be concluded that all the lessons were appreciated by the children. This was confirmed by the primary school teacher who was even approached by children from a parallel class because they wanted to get the photoshop app installed on their iPads as well.

During the evaluation of the project, it was remarked that the Kahoot! quizzes in this study not only functioned as a measurement tool, but also stimulated the children to learn more about the media and fake news. This outcome of the study is worth further research. Recently, a follow up Erasmus+ project with participation of our research group has been granted in which schools and libraries in three countries will investigate similar innovative blended learning approaches for 12-15 aged pupils. In an era when fake news is a growing phenomenon, it is imperative that we promote digital educational readiness in a way that is meaningful to young people.

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Keywords: *media literacy, news literacy, fake news, primary education*

Law Students' Perceptions of Academic Integrity: Pilot Study

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Purpose

The goal of the study is to investigate law students' perceptions about the academic integrity and plagiarism. Academic dishonesty within the context of higher education has been a focus of various research studies (Ashworth et al., 1997; Power, 2009; Spearman, 2014), which indicates its importance for academic community. There is a growing concern among academia that with the advance of information technologies such sort of behavior would be impossible to prevent. However, although the new technology and the Internet make academic dishonesty easier, they also make plagiarism more visible, mainly through the existing plagiarism detection software (Vassileva & Chankova, 2019).

Design/Methodology/Approach

The pilot study of law students' perceptions about academic integrity will take place in March and April 2021 (summer term). The sample will consist of students of one seminar course per each study year (five years in total) at two law schools in Croatia (in Osijek and in Rijeka). Research instrument will be the online questionnaire and students will be asked to give their opinions about various situations related to academic integrity in the context of their field of study. Research questions that guide our pilot study are: What are the perceptions of Croatian law students toward plagiarism and academic honesty? What are the challenges of electronic environment in relation to students' academic integrity? Do students possess enough knowledge about plagiarism to successfully avoid it? Do students want to see topics from the area of academic honesty and plagiarism included in library IL workshops?

Originality/Value

Although of seemingly high interest to academia, this topic is underinvestigated in Croatian academic community. A few studies that were conducted in Croatia (Petrak & Bartolac, 2014) dealt with high school and students of health studies. Therefore, this will be the first investigation of Croatian law students' perceptions toward academic integrity. This study will open the path to further research and increases the awareness about the importance of academic integrity topics. Furthermore, this study will offer guidelines for the involvement of these topics in law librarians' IL workshops.

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Keywords: *academic integrity, law students, Croatia*

College Students' Credibility Judgments on Healthy Diet Information on Social Media

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An important step in healthy food choices is provision of quality information that supports informed food-related choices, which is recognized in the research community (Quaidoo et al., 2018; Larsen, 2013). Healthy dietary decisions depend on nutrition and food literacy competencies of individuals (Krause et al., 2018). A subset of critical nutrition literacy competencies specifically relates to credibility judgements. Flanagin and Metzger (2008, p.18-21) argue that understanding credibility in new digital media environment is particularly complex for youth. Online sources, family and friends are the most popular information source for seeking nutrition information among young adults, and healthcare professionals are perceived to be the most reliable source (Quaidoo et al., 2018; Cash et al., 2015). Among internet sources, social media platforms, mainly image-based platforms such as Instagram proved as an access choice for nutrition-relevant information (Wilson, 2019). However, the quality of online health information remains questionable, and therefore there is a need to fill the gap in the research literature to understand the relevant criteria for evaluation of such quality (Sun et al., 2019). The objectives of this study are to investigate how college students judge the credibility of healthy diet information, and the relationship of their critical nutrition literacy self-assessment with the credibility judgments. This research uses mixed method approach and a sequential three-phase research strategy. The first research phase uses a survey to get the first insight into how they judge the credibility of the acquired information and to identify the potential participants (N=24) for the interviews. The individual interviews (N=6) used in the second research phase investigate what information sources the college students use, providing they seek healthy diet related information, and how they judge the credibility of the acquired information. The third research phase will use a survey (N>100) to test the results on a wider sample by exploring the relationship of their nutrition literacy self-assessment with the credibility judgment criteria use.

Some of the outcomes of the first two research phases are in line with previous research, such as putting value in the source expertise (Quaidoo et al., 2018; Cash et al., 2015), personal experience (St. Jean et al., 2018), accessibility and convenience of the Internet (Quaidoo et al., 2018), and showing a certain amount of criticism towards information found online (Flanagin, A. J., & Metzger, M. J. 2010). The dietary advice shared via social media is evaluated by its unique features such as the number of followers, appreciating a friendly interaction.

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Keywords: *credibility judgements, information sources, healthy diet information, nutrition literacy, college students, adolescents, young adults*

A Preliminary Analysis of the Inclusion of information Literacy in International Higher Education Curricula

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This article is part of ongoing qualitative research in which we are analyzing the content of bachelor-level higher education curricula through the examination of current study programs belonging to 36 research-related courses from different universities worldwide that are classified in the SCImago Institutions Rankings. These programs were selected because they were readily available in one of the three languages spoken by the researchers (Spanish, Portuguese, English). Because this is qualitative research, such sampling does not intend to be representative. This research aims to produce an international curricular analysis that may be useful for improving how information and research skills (IRS) are taught and for determining effective curricular elements and best practices for developing IRS at the bachelor level. The analytical framework that we are using to examine the study programs is divided into the following six dimensions: infrastructure and resources; educational techniques and strategies; teaching and learning methodologies; competencies; contents; and information literacy. In this article we center on presenting the methodology employed for analyzing the latter dimension and provide a summary of our findings. Results discuss how the study programs provide details, identify, or grant attention to the following aspects: a) defining information needs; b) performing advanced information seeking; c) promote the use of diverse information sources; d) facilitate means for critically evaluating information; e) information management practices; f) academic integrity and ethics; and g) other aspects, such as information resources used in the course, its bibliographic characteristics (e.g., diversity, timeliness) and the use of information literacy standards.

Keywords: *information literacy, research skills, curriculum, higher education, bachelor programs*

eHealth Engages and Empowers Low-Income HIV+ Patients: Implications for the Health Literacy Practitioners

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Objective

In the U.S., individuals of low socioeconomic status (low- SES) are more likely to be chronically ill. Low-SES patients are less likely to use e-health resources and engage in doctor-patient communication or decision-making. In other words, despite increased rates of illness, lower SES individuals typically have less agency in determining the quality of their health and healthcare. However, we argue that the wealth of data on this topic tends to overlook the physical and psychological benefits of e-health resources for low-income people. In this study we explore the use of Internet by HIV+ low-income groups.

Methodology

We conducted interviews with 39 low-income HIV+ patients to explore how these patients use e-health resources when available, and what role does this information shapes their doctor-patient interactions, the way they make informed choices about treatment options, and can lead to enhancing patients' self-efficacy and empowerment.

Outcomes

Findings point to opportunities for developing health literacy strategies for improving health for chronically ill individuals; if e-health is going to serve those *most* in need, the health literacy community must grapple with the experiences of chronically ill users living in poverty. We specifically advocate the creation of “e-health literacy infrastructures” that serve as a scaffolding for supporting patients to improve their e-health literacy skills and benefit from online health information. Such strategies must be contextually sensitive, socially situated, and preferably leverage existing systems and resources within the community that the intended recipients are familiar with in their context.

Keywords: *e-health literacy, low-income groups, HIV+, e-health literacy infrastructures*

Critical Health Literacy and Critical Information Literacy: Bridging Research Discourses from Different Domains

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Introduction

Health information literacy is a multidimensional and dynamic concept that incorporates social, cognitive, economic, and personal skills that determine individuals' ability to find, understand, and use health information to improve and maintain their health. The evaluation of reliability and credibility of online health information plays a significant role in affecting health behavior change. Given that research to date has not reached a consensus on a framework to improve the understanding of the process of building user confidence in online health information, information credibility assessment remains the most widely reported challenge among online health information consumers and health information literacy researchers (Diviani, Obrenovic, Montoya & Karcz, 2020; Huhta, Hirvonen & Huotari, 2018). When addressing the problem of credibility of online health information, then one of the subdomains of health literacy becomes the focus of investigation, namely “critical health literacy”. A similar assertion can be made for the field of information literacy, where the concept of “critical information literacy” can contribute to conceptualizations in critical health literacy due to its focus on critical appraisal, empowerment and social or economic determinants. The current context of an infectious disease crisis accompanied by information excess additionally underlines the need to enhance our understanding of the critical health information literacy construct.

Objectives & Methodology

The objective of this research was to carve out the critical dimensions in health literacy and information literacy and conceptualize critical health information literacy, but also to examine credibility assessment of online health information from the standpoint of two research domains - health literacy and information literacy.

The research design was based on two qualitative and interpretative approaches. A systematic search of literature and a comprehensive thematic analysis of credibility assessment of online health information was performed to gain an overview of existing approaches for assessing the credibility of online health information, to construct the definition and conceptualize critical health literacy and to determine common elements of online information evaluation in related concepts (health literacy, information literacy, digital literacy, etc.). A content analysis of all available tools and tests for measuring health literacy was performed, with special emphasis on the critical component to detect specific competencies, define knowledge and skills needed for critical appraisal of online health information.

Outcomes

The results of this research will contribute to conceptualization of critical health information literacy and serve as a basis for defining information appraisal skills to provide support to consumers while searching for online health information, as well as development of an instrument for assessing the quality, reliability, and credibility of online health information.

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Keywords: *health information literacy, health information appraisal, online health information, information credibility, skills*

The “Real World” Relevance of Information Literacy: Part 2 - The Factors that Make Information Literacy Relevant in a Post-Truth Era

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This is a sequel to the ECIL 2017 Conference paper titled: The “Real World” Relevance of Information Literacy (Kaufmann, 2018a). As students in higher education apply information literacy to academic work in the post-truth era the findings from Kaufmann’s doctoral study (2018b) uncover the student information experience that is described using a pragmatic epistemological approach and using sociocognitive relevance to measure subjective relevance.

Using relevance theory as the theoretical framework, and applying theory to instructional practice, the user relevance perceptions of information literacy were investigated as first introduced in 2017. Sociocognitive relevance is the perception of something being useful and meaningful (Borlund, 2003). When considering the user-view, relevance is identified when information has meaning or is meaningful in relation to context - such as academic work (Cosijn & Ingwersen, 2000; Saracevic, 2007).

Kaufmann (2018a) used a mixed methods, cross sectional two-stage sequential explanatory design to investigate if information literacy was relevant to students in higher education to complete an academic task. Ten factors of information literacy relevance were identified. Beyond the uber factor and nine key factors, are eleven dimensional factors that can be utilized for more in-depth consideration. Using the theory of relevance as a framework (Wilson & Sperber, 2004), findings contribute to the growing literature in information literacy and the nascent space in information science literature on socio-cognitive relevance (Hjørland, 2004).

Using the factors of information literacy relevance to inform teaching pedagogies, students can identify their own information literacy assets – what they already know – their Uber Factor - Knowledge Base. Hence, students can connect ways they use information in their “real world” to the academic information ecology and raise the relevance of information literacy for their academic work in higher education. This non-linear information experience is more explicitly identified as a metacognitive learning space, or a kaleidoscope experience.

Using the ten factors that make information literacy relevant combined with an asset-based versus a deficit-based approach to teaching information literacy informs a balanced approach to preparing students in higher education to engage with information effectively and employ critical thinking in the post-truth era.

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Keywords: *information literacy, sociocognitive, relevance, HE, teaching, asset-based pedagogy, metacognitive*

Perception, Awareness, Presentation: Using Meditation Techniques to Teach Data Visualization Literacy – a Case Study

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In the field of data literacy, a subfield of information literacy, the ability to present, i.e., visualize, data will become increasingly important in the coming years. The rise of data science and the concept of Big Data have placed a strong emphasis on quantitative, technical and machine based aspects.

At the same time, there are voices to be heard postulating a transition from data-driven design to design-driven data (Lupi, 2017), for which - without disregarding observation-based quantification (Lupi & Posavec, 2016) - aesthetic-humanistic aspects are coming to the foreground. The same applies to the principles and laws derived from the concept of Gestalt. The techniques associated with these approaches - even if this may contradict the intuitive view - show astonishing parallels to meditation techniques.

These premises led to the conceptualization and delivery of a course on 'Introduction to Data Visualization' being part of the bilingual curriculum for the Bachelor of Science in Information Science at the Geneva School of Business Administration. The course was composed of seven workshops: a) Gestalt, b) Data, c) Poster Design, d) Observe Collect Draw (Lupi & Posavec, 2018), e) Tools f) Data stories, and g) Final Presentation. The course was taught in three languages (German, French, and English) to a total of 8 students.

Each workshop started with a meditation focused on the main theme, which was further taken up in the theoretical and practical parts of the second part. The overall teaching concept can be subsumed under the motto “data, i.e., everything that is given, is the basis of meditation - data visualization is a meditative process”. The course ended with an individual presentation and return-of-experience from each of the participants.

In conclusion, it can be stated that meditation techniques in a concrete and figurative sense are a suitable didactic means to introduce principles and skills of visualization, to make them tangible and understandable. They train the skills essential in both contexts (meditation and data visualisation), of proper use of the senses (i.e., cognitive perception) (Varela & Rosch, 2016), associating mindfulness and attention (Graham & Lewis, 2020), as well as mastering and presenting the resulting internal and external images (presentation,) with the aim of telling stories (Wang et.al., 2019). The totality of the techniques learned were thus brought together in data stories.

The paper will present and critically reflect on the techniques and course content used in each case.

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Keywords: data literacy, data visualization, meditation techniques, awareness, perception, cognition

DOCTORAL PAPERS

The Role of Information Specialists in Reviews for Education Research

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Increasing numbers of scientific publications and the information overload make it harder for researchers to look for relevant information. Literature reviews provide an approach to synthesize scientific evidence and present the current state of research. Literature reviews have become a separate research method and several types of reviews with different approaches and goals developed. Guidelines on literature reviews have been published by institutions like Cochrane or Campbell Collaboration, and textbooks exist that specify the methods for diverse kinds of literature reviews (Booth, Sutton, et. al., 2016; Gough, 2017). A main aspect is their integrative and systematic search strategy. The search for relevant literature is a basic element to create the data set to be assessed for further synthesis of results. This process should be approached with a great responsibility. The majority of the guidance recommend the consultation of an information specialist to conduct the literature search part. Those specialists are seen as a key partners in the search process. The reason of this recommendation is based on the assumption that for example librarians have the competencies for information retrieval and search tactics in databases which are required for search strategies on literature reviews (Booth, Sutton, et. al., 2016). Information seeking as important point in information science and some strategies are as well transferable for reviews like the Search Formulation Tactics (Bates, 1979). However, a search strategy for a literature review in a specific research discipline needs to be created and adjusted to fit the demand of a research question. In the interdisciplinary field of educational research, literature searches have special requirements. Relevant information is published in various types of publications (journals, essay collection, grey literature) and indexed in different databases.

The aim of my PhD is to identify the role of information specialists in reviews conducted in educational research. The project aims at recommending a framework of search competencies that enables to conduct a professional review search. To define a high quality literature search, a model has to be developed which considers all requirements in education research.

- Which role do information specialists have in the literature search for reviews?
- In which way do specialists contribute to the quality of reviews?
- What competencies are required for high quality search for literature reviews in education research?

To have a data basis for textual analysis of review quality and the role of information specialists, a systematic review on reviews done in education in Germany between 2014 and 2019 was conducted. The generated dataset creates the basis for my text analysis. The qualitative textual analysis focuses the search strategy and the responsible actors within the review team. For the quality assessment, a modified peer-review-model will be created. The basis is the Peer Review of Electronic Search Strategies (McGowan, Sampson, 2016). I will conceptualize an assessment framework based on PRESS and further relevant guidelines that suggests search strategies for educational research. The analyses will bring first insights into reviews quality and role of information specialists. Findings will be complemented with a user study in which involved actors within the search process on their role and competencies examined. Those results are applied to design my framework on search literacy, which will be compared to existing models of search literacy. The systematic review is conducted and the analysis of the review types will soon be finished. At the conference first results on the quality of the reviews in our data set will be able to present.

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Keywords: *search literacy, literature reviews*

New Information Literacy Horizons: Making the Case for Career Information Literacy

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Objectives

Several researchers have noted that traditional information literacy scholarship has focused primarily on the exploration of the meanings and applications of information literacy within the library and higher education domains (e.g., Hall, Cruickshank & Ryan, 2020). In recent years, however, information literacy researchers have identified new horizons for the advancement of information literacy scholarship. Of note, scholars now explore information literacy in workplace contexts (e.g., Forster, 2017), and have called attention to the role of information literacy as part of complex information lives (e.g., Martzoukou & Sayyad Abdi, 2017). The objective of the literature review reported in this paper was to explore the extent to which prior information literacy research has been concerned with employability and career development and learning.

Methodology

A literature search and review of information use in careers, and information literacy in diverse environments, was conducted to preface a larger empirical study (as part of a doctoral degree). The literature search was performed via a university library catalogue which provides access to multiple academic databases. This allowed for thorough coverage of relevant sources to be achieved. Variations and combinations of twelve keywords were input into the university's ExLibris Primo library discovery service and results then filtered for relevance. The keywords were: career, decision making, education, employability, everyday life, information behaviour, information literacy, information, learning, lifelong learning, library, and workplace. Due to the interdisciplinary nature of the research, search results from the broad domains of Library and Information Science (LIS) and Career Studies were considered. The content of the retrieved items was manually coded by discipline and theme. Priority for inclusion in the literature review was given to publications that were recent, peer-reviewed, frequently cited, and that incorporated the specified keywords throughout.

Outcomes

At ECIL 2021, an analysis of the extant literature on information literacy and employability in general, and information literacy for the purposes of career development and learning, will be presented. At the time of the submission of this abstract, work towards this presentation is still in progress. Preliminary results, however, indicate that information has been treated as a peripheral dimension in the careers literature, and that information literacy in the workplace has received considerably more research attention than information literacy for employability purposes in the LIS literature. There are also some key differences between scholarship on employability information literacy and that on workplace information literacy. The former is concerned with a specific set of employability behaviours in specific circumstances, whereas the latter is a term reserved for information literacy in organisational settings. Neither fully encompasses conceptualisations of 'career' as an ongoing personal development project, whereby individuals engage in lifelong career development and learning. It is thus proposed that 'career information literacy' should be incorporated as an additional and separate strand of information literacy scholarship. This mode of information literacy should prepare individuals to deal with complex and variable tasks in unstructured, everyday environments, and to take goal-oriented action towards their personal career development goals.

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Keywords: *information literacy, career, learning, decision making*

BEST PRACTICE

Mixing a New Palette: Multifaceted Information Literacy Instruction for Emerging Young Adults

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University students live within a state of transition: between college and workplace, home and away, dependence and independence, and adolescence and adulthood. As instruction services librarians, we witness variability in student maturity, personal investment and commitment, technological skill, and information literacy awareness (Feltsan, 2017). To further complicate efforts to educate young adults, views on andragogical practice and instruction vary (Knowles, Holton, & Swanson, 2011; Loeng, 2018).

In response to these variables, instruction services librarians may offer a blend of instructional approaches fitting both adolescents and adults, with pedagogical methods complementing andragogical methods to foster students' growth as responsible members of society (Grassian, 2017). When holistic instruction is offered in conjunction with reading format preferences, critical thinking skills, application of technology, collaboration with faculty, and consideration of student affect, optimal learning outcomes may be attained (Anderson & Johnston, 2016; Bury, 2016; Mizrachi, Salaz, Kurbanoglu, & Boustany, 2018; Taylor & Marienau, 2016).

In this presentation of best practices, topics addressed include the history and definitions of andragogy, cognitive development of the young adult, differences between pedagogy and adult education, information literacy and social responsibility, and techniques for instructing developing young adults within an increasingly global society.

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Keywords: *information literacy, andragogy, pedagogy, instruction methods, lifelong learning*

Yes We Can (within Reason)! Load Management for Teaching Librarians

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Load management has recently become a hot term in the North American sports world and has even been credited with helping the Toronto Raptors win the NBA Championship last year. What is Load Management, and how does it apply to the library world? Load management basically means rest, and for the NBA, load management determines how often players should work out, practice, travel, and everything else surrounding those game minutes as well. It uses caution to keep players feeling their best, and strategizes when it's necessary to put additional strain on the world's best athlete's bodies with the overall goal of helping their physical and mental health. For the teaching librarian world, load management could be used in helping prevent one of the most serious, and common, afflictions affecting this population – burnout. Teaching librarians often teach 40-50 (or more!) library instruction sections in a typical semester and after doing that a few semesters in a row, burnout becomes a real possibility. Burnout can take many forms and have a negative impact on our lives in multiple ways. Teaching librarians experiencing burnout might feel depressed, fatigued, irritable or quick to anger, experience insomnia, a change in appetite, brain fog, and have no desire to socialize. How can we care for these librarians in a way that helps prevent burnout, and takes care of the whole librarian? How can we support our teaching librarians and provide them with the tools and skills necessary to take care of themselves, and help prevent burnout, while also getting the necessary teaching work done? This “Best Practices” session will help you learn the answers to those questions and help you, and any teaching librarians who report to you, to better understand what causes burnout, how we can work to fix it once it happens, and how we can work to prevent it from infiltrating our work in the first place. And as a result of attending this presentation, participants will be able to define the term load management, apply it to the position of teaching librarian, and strategize some best practices designed at counteracting the effects of burnout.

Keywords: *load management, teaching and learning, burnout, teaching librarians*

Practice through Play: Designing Successful Gaming Workshops

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Through a grant from the Literacy Network of Kansas (K-LINK), the authors created a series of Board Game Workshops for Teens at the Manhattan Public Library (MPL). Developed in conjunction with the University for Mankind (UFM) Community Learning Center in Manhattan, grant monies were used to purchase a wide variety of board games for use in the workshops that were afterwards donated to the collections of MPL and UFM.

Collaborating with multiple organizations allowed for significant cross-promotion between organizations, with Kansas State University Libraries' faculty leading the sessions and conducting research. As a land grant institution partially funded through Kansas taxpayer dollars, partnerships of this kind are both a part of the Kansas State University mission and useful in the development of courses that may be later adapted to classes intended more for a university audience. Furthermore, programing of this kind also functions as outreach to potential future students.

These workshops functioned to promote a variety of literacy skills, such as cooperation, peer communication, and critical thinking. During these workshops, students learned to play a variety of "prestige" board games, common in specialty retailers, and frequently with themes related to educational subjects. Game selection was also based on how their mechanics encouraged exercise of a number of different literacy and literacy-adjacent skills, with both guided practice and free-play of students driving the pedagogy. During free play, students were encouraged to try out new games, and teach their peers to play. Pre- and post- workshop surveys were distributed for students to self-assess their comfort with the literacy and communication skills required in playing board games. This summer program provided students with the chance to practice these important social skills, as well as literacy skills, providing multiple benefits as a social/educational summer program.

Education as a field has cooled somewhat on the use of games and gamification in the classroom over the past few years, following a peak in excitement in the first half of the decade and declining from 2015 on, according to Bryan Alexander in the 2019 Horizon Report (p. 39). Much of the focus the past few years has been on digital gaming, with failure points being commercial games' distance from educators' goals, and educational endeavors' inability to keep up technologically. Board games are an under-explored avenue for engaging students both from a skills and content standpoint as well as critical social engagement.

Participants in this workshop/presentation will have the opportunity to experience the inherent social cohesion of formalized play in an active session demonstrating game mechanics, group discussion, and learning from the presenters why games are so effective at teaching these skills.

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Keywords: *libraries, games in education, information literacy, community partnerships*

Meaningful Inquiry: Promoting an Equitable Approach to Information Literacy and Research Assignments

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Problem Statement

Over the past decade, through the increased visibility and popularity of both critical librarianship and critical pedagogy, more attention has been given to the ways in which the information literacy classroom can embrace diversity and be more inclusive. While this work is significant and essential, academic librarians in the United States, as a profession, are only at the beginning stages of considering their role(s) in creating an equitable culture of teaching and learning at their institutions. This includes thinking beyond the “one-shot” information literacy instruction classroom and fully embracing our role as collaborators and partners in the instructional design process. While there has been some scholarship about academic librarians providing instructional support to faculty and instructors beyond the “one-shot” model (e.g., Gilman, Sagàs, Camper & Norton, 2017; Hammons, Brooks, Chesnut & Warner, 2019), more work needs to be done in this space. One type of teaching collaboration or partnership is the provision of professional development for faculty and instructors related to teaching information literacy. This is sometimes referred to as a “teach the teacher” model. Although this work has been happening in academic libraries for many decades, the outcomes assessment of these kinds of professional development opportunities remained understudied.

Purpose

In this contribution, we describe a five-module instructor development workshop series called Meaningful Inquiry, which is intended to not only provide faculty and instructors with professional development related to teaching information literacy, but to provide participants with a framework for thinking about what equity means within the context of higher education and teaching strategies they could use to make their research and inquiry-based assignments more inclusive and equitable. We will also share preliminary findings from pre- and post-surveys administered to participants to describe their motivations for participating in the workshop series, how they describe information literacy and the purpose of research assignments, and the workshop content they found to be most valuable.

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Keywords: *academic libraries, instructor development, equitable learning, inclusive learning*

Mining Syllabi for IL Gold: Best Practices for Text Mining Institutional Documents to Inform Assessment and Strategic Planning for Libraries and Information Literacy

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Academic librarians expend significant effort to create and promote information literacy programs within their institutions, and look for ways to assess the impact of those efforts in order to improve practice and plan for the future. At the same time, instructors expend similar levels of effort to design courses that meet the learning objectives of their programs; one artifact of their efforts is the course syllabus. Not surprisingly then, academic librarians look to syllabi in order to understand and assess the impact of their IL programs within departments and across institutions, as seen in the research of VanScoy and Oakleaf (2008); Maybee, Carlson, Slebodnik, and Chapman (2015); McGowan, Gonzalez, and Stanny (2016); and Dubicki (2019). However, two recent developments add a new wrinkle to these kinds of studies. First, many institutions are creating repositories of syllabi to inform current and prospective students on course details and to archive the efforts of programs and departments. Second, software applications that support text mining with easily comprehensible analyses and visualizations of results are now accessible to researchers at all levels. This perfect storm of need, accessible data, and affordable technology makes it possible for academic librarians to perform detailed analyses of large corpora efficiently and swiftly. This analysis provides the quantitative and qualitative evidence necessary to implement immediate actions, to facilitate longer-term strategic planning, and to demonstrate the support required for IL programs. In this best practices session, the authors will demonstrate techniques for text mining syllabus content using a readily available software application. The authors will demonstrate the effectiveness of this technique through actual results from a study at their institution. Finally, the authors will provide examples of action items resulting from their analysis that positively impacted library and IL awareness at their institution.

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Keywords: *assessment, text mining, information literacy research methods, algorithmic cultures*

The Survey of Information Literacy among Pupils and Teachers in Elementary School

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New Curriculum in Japan

The Ministry of Education, Culture, Sports Science and Technology (MEXT) in Japan announced educational guidelines for elementary schools in 2017. Based on it, all subjects' textbooks are revised in the elementary schools of Japan beginning in 2020, with a new learning activity introduced, and programming education, and English language education from the lower grades launched. The Period for integrated study of elementary school educational guidelines was carried out beginning in 2003, with the learning method utilizing the document of the school library and information of the Internet implemented, but teachers are still puzzled. Because most of them rarely get an opportunity to learn information literacy. The aim of this survey is to clarify and compare the information skills which teachers want to teach their pupils, and which the pupils expect to learn in Japan.

Questionnaires Related to Information Literacy

We have already conducted three questionnaires related to information literacy in Japan. The first was among university students and teachers, the second was among pupils and their teachers in senior high school, and the third was among pupils and their teachers in junior high school. This year we distributed the same questionnaires among children and teachers in elementary schools. The purpose of this questionnaire is to examine their interests and needs like judging the ability of a teacher and students regarding information literacy. The critical questions are, which skills teachers will teach their pupils and which skills the pupils will acquire. Information skills we adopted in the questions for teachers and pupils are mainly based on the PLUS model published by James E. Herring in 1996 and 2010. The model includes four steps: Purpose, Location, Use, and Self-evaluation.

From December 2019 to January 2020, we conducted a survey of 701 children and 67 teachers including a school librarian at two schools in Yokohama and three schools in municipalities around Takasaki.

Van Dijk and Van Deursen (2014) argued that less attention has been paid to information skills, the ability to search, select, and evaluate information in digital media. When pupils and students become adults and work in society, it is important to explore, select and evaluate information.

We would like to improve the teaching method by analyzing the surveys. We will reflect on the results of the analysis in information literacy education.

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Keywords: *information skills, survey, teachers, pupils, junior high school*

Developing a Data Literacy Certificate Program

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The University of Tübingen (Germany) has developed a data literacy certificate that launched in the fall of 2020. The goal of this certificate is to provide students with the skills necessary to successfully navigate an increasingly digital work and social environment.

In 2015, Ridsdale et al. conducted a systematic review of literature on data literacy and developed a data literacy competencies matrix in which they defined five broad competency areas (conceptual framework, data collection, data management, data evaluation, and data application). Using a modified version of this matrix as a starting point, we looked at existing or planned course offerings on campus and mapped them to the identified required competencies.

The courses and workshops that are part of the certificate not only address technical skills around data handling, analysis, and presentation, but also cover areas that are located in the realm of library science, such as information retrieval and critical evaluation. A third column is the critical reflexion on the role and impact of digital and data-driven technologies on our society.

The courses have different formats: short workshops primarily offered by the university library, short but intensive courses, and semester-long classes taught by all campus partners. They are meant to not only train students in the practical use of digital tools, but also include instruction in areas such as information search and evaluation. Another important part will be a critical examination of topics such as artificial intelligence or social media and their impact on our society.

Most of the existing offerings are in-class courses. However, recent developments necessitated the creation of more online learning opportunities, which impacted the planning process the certificate.

This presentation will outline the rationale for creating the certificate and provide an overview of similar efforts at other institutions. It will then describe the initial plans for the program and how plans had to be modified. Finally, it will provide an initial evaluation and discuss possible future developments.

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Keywords: *information literacy, data literacy, digital literacy, curriculum*

Learning Community Partnerships: Strengthening Collaboration in a Post-Truth Era

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Background and Objectives

As the polarization endemic to the post-truth era has limited critical communication and reinforced ideological silos, finding intentional ways for educators to work with communities to address these issues has become increasingly vital. Professional learning communities shape opportunities to pursue meaningful collaboration and to break down these silos. These communities are cross-disciplinary groups of educators who engage in communication about teaching and learning across diverse subject areas. Learning communities provide a strong mechanism for increasing interest in pedagogy, engaging in the scholarship of teaching and learning, and fostering civic responsibility (Cox, 2001). As spaces for professional growth and development, learning communities also help to gradually facilitate holistic change within educational organizations (Cox, 2001; Bauer, Brazer, Van Lare, & Smith, 2013). Learning communities also provide a valuable avenue for librarians to expand their role in educating department faculty about information literacy concepts and in partnering to integrate these concepts into the curriculum (VanderPol & Swanson, 2013).

What are examples of learning communities in practice? How can participation in learning communities help build and strengthen partnerships among the library and department faculty and staff? How do learning communities inform information literacy teaching and learning? How can learning communities contribute to the breakdown of ideological silos that are ubiquitous in our post-truth era? This session will explore how university learning communities have shaped collaborative opportunities to improve teaching and advance student learning. A department faculty member and three librarians will share our experiences as learning community participants and facilitators. We will explore how our involvement has influenced our teaching practices and how learning communities help to inform and shape information literacy in discipline-specific contexts. Session participants will gain effective practices for developing learning communities in their organizations and reflect on additional strategies and opportunities for substantive collaboration.

Outcomes

Participants will:

- Gain strategies and effective practices for developing learning communities in their organizations.
- Reflect on additional strategies and opportunities for meaningful collaboration.

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Keywords: *learning communities, collaboration, partnerships*

Inclusion for Refugee Students: The Role of the Library

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Sciences Po is a private university specializing in social sciences studies. Its library's main mission is to support the university's teaching and research.

During the 2018/2019 academic year, Sciences Po started to offer an 18-month Professional Certificate for Young Refugees (CPJR) (Sciences Po, 2018). This program, supported by the Wintegreat Association, was designed for 16 young people aged between 19 and 30, coming from several countries, with a political refugee status.

The courses proposed to the young students are mainly: history, languages and mathematics. The aim of the program is to upgrade their knowledge in order to help them adapt to living in France and its environment and, at the end, succeed in getting a job.

The library has been involved in the project from the beginning. A core curriculum has been elaborated in order to assist the students in their new « student » status. It proposes a training plan, of six hours in total, with the following objectives:

- present the library's resources and services,
- train students in search methodology and the use of research library tools,
- evaluate online content,
- know the basics of bibliographic citation.

The modules were based on innovative pedagogical methods promoting group dynamics such as photo-language, quizzes, QCM, and the production of a poster in a sub-group followed by a report back to the class that encouraged oral and written expression in French. These pedagogical innovations have thus made it possible to work on digital interfaces (quizzes) as well as printed interfaces (creation of the poster) allowing a positive and stimulating alternation.

In addition, a team of tutor librarians accompany these students and provide them with personalised assistance, as “book a librarian” (Sciences Po, 2018). Visits to other cultural and heritage institutions (such as the national library or the district public library) were offered to them in order to broaden the resources to which they could have access. The support offered to these students by the library was very beneficial for them, most of whom had never attended university before. It helped and encouraged them to better integrate into a complex and new environment giving confidence for their future.

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Keywords: *academic libraries, core curriculum, information literacy, inclusion, immigrant, refugees*

Students' Self-Assessment on Information Literacy

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As part of a project run by two teachers and one librarian, aiming to develop an e-learning portfolio, our survey of the university students' information behavior in a course context presents us with several interesting findings in a teacher's perspective.

Background

The Environmental Science program is a bachelor program at X university. The program uses Problem Based Learning (PBL) as pedagogical model. The collaboration between the Library and the program is very well developed.

This project aims to develop students' Information Literacy (IL) and to enhance the teachers' course components for guiding the students' IL development. It consists of four parts.

- Assessing students' routines and skills in information literacy via a survey.
- Assessing teachers' course components for guiding student's information literacy via interviews.
- Developing in-class components to improve information literacy for teachers and librarians.
- Creating an e-learning portfolio for students to document, assess and advance their own information literacy.

Method

A web-based survey was sent to 102 students of the program. It consisted of twenty questions with multiple answers. The questions aimed at the picture of the students' self-assessment of searching, evaluating and using information. We also wanted to see how different sources were used for different types of tasks: reading for group-meetings, written basis for group-meetings and essays.

Questions used in this survey were developed by the project group and inspired by several researchers in the field such as Head and Eisenberg (2009) and van Laar (2017) with UNESCO (2011) as the framework. The total response rate was 65%. The answers from the three different student cohorts were analyzed separately in order to discover possible progress during the three years.

Findings

Results show that the students assess themselves as more capable in searching for and finding and using information at year three level than year one. This is natural due to education and maturity as students.

Our results show that the students can distinguish adequate sources for different tasks but that year one students use Google more for their essays than year three, who uses more databases. The most challenging moments of searching are formulating a problem and choosing keywords. This is probably connected to the general uncertainty in the writing process (Kuhlthau, 2004, p. 82).

The findings revealed several implications on IL to the teachers and will change their pedagogical approach.

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Keywords: *self-assessment, information literacy, university students, survey*

Information Literacy Instruction for Post-Graduate Students as Professional Development

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Purpose

The purpose of this presentation is to show how to develop and deliver a strong information literacy program to graduate students via a university-wide integrated professional development approach.

Problem: Many university libraries work to deliver useful programs to graduate students; yet it is hard to contact and deliver pertinent library instruction to them. Professors and supervisors of MPhil and PhD students expect that their students know how to do literature research, handle data, write, and publish. However, many students lack some of these skills, especially if their undergraduate education did not require them to do much independent research and writing.

Approach

In the library professional literature, commonly described useful ways to reach graduate students have included teaching information literacy in the framework of scholarly communication or digital or data literacy. Such approaches to educating graduate students in information literacy, scholarly communications, and so forth, are typically framed and performed as a library intervention, although some may be mandated by the institution as a whole. A different method is to take advantage of life-long learning or accreditation requirements from professional organizations like the Accreditation Board of Engineering Technology (ABET). Such professional development programs for graduate students have been recommended in the past, and are in place at some universities, for example institutions using the UK-based Vitae framework. However, there is little in the library literature about university-wide programs embedding information literacy and scholarly communications competencies into their professional educational mission. This presentation documents an integrated professional development approach for graduate student information literacy instruction.

Practical Implications and Novelty

By giving examples and lessons learned on creating and delivering a successful information literacy program within a university-wide framework of professional development for graduate students, it may help other practitioners develop their information literacy programs for graduate students. It will show how a small team (~8 librarians) work individually and programmatically across all its Schools (Business and Management; Engineering; Humanities and Social Science; and Science) as well as with the Office of Postgraduate Studies. For the past five years, it has regularly served ~600 MPhil and PhD attendances annually and continues to grow. It will also show how such instruction has been integrated into some of the masters programs' and early faculty members' professional development.

Keywords: *postgraduates, graduate students, scholarly communication, professional development, information literacy, data information literacy*

When the Degree Programmes Go Online: Learning from the Experience of Co-Teaching

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In Finland many of the Universities of Applied Sciences (UAS) are offering degree programmes where you can take a degree entirely online. This means new challenges for the teachers. How do we obtain good learning results in online teaching? How to support interaction between the students, and between the students and teacher, when we are not in the same classroom? This presentation explores these themes using the study module of Communication Skills as an example. In our UAS this study module includes also information literacy skills. The purpose of this presentation is to illustrate how to create an interactive online course about communication and information skills, and how to make co-teaching work. The presentation brings out some good practices and it tells what the teachers learn from this.

The Senior Lecturer in communication and the Information Specialist planned the curricula for the Communication Skills study module together. It was important to consider together what kind of teaching methods we are using and what the timetable is. The main point was that the students had a similar idea of how they will take the study module of both teachers' parts. The study module and materials were in Moodle-learning environment. We choose to use the flipped classroom (information skills) and process writing (communications skills) teaching methods, because we believe these would support learning online. Flipped classroom means that things we normally do in the classroom and as homework, are switched the other way round. In process writing, you break the writing task into smaller components, and focus on only one component at the time. We used different digital tools including Microsoft Teams and Adobe Connect Pro to maintain interaction between the students and teachers during the module. We had video material and all the recorded Adobe Connect Pro meetings in Moodle. The information specialist collected feedback from the students at the beginning and at the end of the part of information skills.

We noticed that students need the same kind of support in spite of the study environment. Students said in their feedback, that video material and Adobe Connect Pro meetings supported their studies well. We notice that when we are teaching online, we have more lessons and we give more guidance during the evenings, than in traditionally classroom teaching. The feedback of the information skills part demonstrated that the flipped classroom teaching method is suitable when you teach online. It was good to ask students before the online meeting what kind of information skills they have. In this way, the teacher had better knowledge about the students and could plan online meeting better.

What can we learn from this?

- Take the time to plan the study module together if you want co-teaching to have a greater value to the students.
- It is important that you have support for using digital tools in your organization.
- Make the instructions for the students in many different forms, including text, pictures and video.
- The flipped classroom teaching method works well in online environment if you have some kind of testing before the online meeting.
- The teacher needs knowledge and skills to use many different digital tools and you need skills to help students using these.
- It is more difficult to find those students online who need more support, including the difficulties of reading or being self-regulating.

Keywords: *online teaching, co-teaching, information literacy teaching, teaching methods, online learning*

Development of an Online Module in Academic Integrity at Chalmers University of Technology Library

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Chalmers Library is a part of the Department of Communication and Learning in Science (CLS) which is considered a pedagogical hub of the University (Chalmers University of Technology, 2020).

The online module CLEO (Chalmers Library Education Online) became a part of our offerings along with tutoring sessions that together are mandatory for most BSc students. The module, however, is not credit-bearing.

The first version of CLEO was created in 2015 with the help of internal grant for a blended learning project. The initial work was previously presented at ECIL 2017 (Wernbro & Nordfeldt, 2017). After we received good evaluations more BSc programs became interested and ordered the online module.

CLEO is offered in either Swedish or English and consists of short videos with quizzes on source criticism, referencing, plagiarism and copyright. The quizzes are interactive, automatically graded and provide immediate feedback. This makes students more active and gives them an opportunity for a deeper reflection on academic integrity, which becomes increasingly important in a post-truth era. There is considerable evidence that active learning should be preferred to traditional passive learning summarized, among others, by Freeman (2014).

The content of the course was updated last year following ACRL Framework for Information Literacy (2015) with clear learning outcomes. Chalmers has recently started using a new Learning Management System (LMS), Canvas, which we used for the updated version of the online module. Previous research shows that embedding library instruction in Canvas helps the librarians to work more efficiently, enhances student learning and increases collaboration with the faculty (Mune et al., 2015).

We encourage the students to look at CLEO prior to tutoring sessions since they can get acquainted with basic concepts. This gives us more productive time during face-to-face meetings to which students come prepared and ask more deliberate questions. The sessions become therefore more effective thanks to the flipped classroom approach which is also confirmed by Hodges (2015).

During the autumn of 2019 we conducted user experience (UX) tests in order to make CLEO more user-friendly and in the spring 2020 the online module was integrated in two BSc and two MSc Canvas courses. Around 550 students writing their theses are now taking part of CLEO.

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Keywords: *information literacy, online module, Canvas, active learning, blended learning*

Academic Writing Events: Experiences from NTNU University Library

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A literature review showed that the concept of academic writing events originated in Germany in 2010, at the European University Viadrina in Frankfurt (Oder), with “The Long Night Against Procrastination” (Datig & Herkner, 2014; Kiscaden & Nash, 2015). It has since spread around the world and such events are now arranged by many libraries and writing centres at colleges and universities. The idea is to provide an all-night event for students writing theses, offering them courses, guidance and/or support in their writing process.

At the Norwegian University of Science and Technology (NTNU), the first academic writing night “Skrivenatt” took place in 2013 at Dragvoll Library, the Library for Humanities and Social Sciences. The main focus was on supporting the students writing a thesis or assignment, but short courses in literature searching, reference and citation management were also offered.

Soon, other branch libraries at NTNU followed, and now there are several writing nights arranged at the University Library every year. Our library section, the section for Architecture, Natural Sciences, Technology and Economics (SANT), arranged its first “Skrivekveld” (“Writing Evening”) in 2016. Students from these subject areas have preferred short courses and guidance in literature searching, reference and citation management, writing techniques and motivation to support actual writing.

The different branch libraries organise the writing events differently. At SANT, we invite the Centre for Academic and Professional Communication (SEKOM) and NTNU Career Service to give presentations and/or offer guidance, but we organise the event ourselves. At the other branch libraries, the event is organised by SEKOM or a university department in collaboration with the library.

After several years of experiences with writing events we have learned more and more about what the participating students need and expect. We now have deeper knowledge of who the students are and what they need most. In addition, we have seen what has been working well and what needs to be adjusted. At the moment, we are reflecting on our experiences in order to make well-reasoned decisions about future writing events.

This presentation will describe how these writing nights have been organised and what lectures, workshops or guidance have been offered. It will also present the advantages and disadvantages; different ways of organising such events; and feedback from the participants. Finally, thoughts about necessary changes will be communicated.

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Keywords: *student writing, writing events, university libraries*

Thoughts over Likes: Teaching Responsible News Dissemination

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As academic librarians, we hope every student graduates with the ability to find and use information for every situation they encounter, from navigating a difficult conversation to fixing a leaky sink. Evaluating information for quality, accuracy, and bias is a key component of information literacy, which instruction librarians often teach in classes to help students complete specific assignments. The Association of College and Research Libraries (ACRL) framework for information literacy describes evaluating information in the frame of Authority is Constructed and Contextual. This frame states, “Information resources reflect their creators’ expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required (2016, p. 12).

During the last presidential elections in the United States, six librarians at Kansas State University dove into a messy news ecosystem to explore a practical application of this frame. We developed a workshop series to help students reflect on authority in their lived experience as news consumers, creators, and sharers. Our goals were for students to be critical of and curate their own news sources and to stop and think before reacting to and sharing news on social media. We also wanted to equip students with resources to share these concepts with friends and family. While the workshop series was not well attended, we pursued other outlets for the information we collected and activities we created. Other opportunities to share this experience pursued us.

While many of the information trends surrounding news media are not new in concept, “fake news” and related issues are exacerbated by the rise of social media, particularly in the news consumers’ capacity to tailor truth to suit existing biases, a process highlighted by Mandy Zibart (2016). Using this and other tools we are able to demonstrate how personal news curation can lead to pitfalls and gaps in understanding as “filter bubbles” created a bias feedback loop. Individuals can often spot this phenomenon easily in others but may have difficulty perceiving their own biases, as many of these sources will falsely present themselves as unbiased.

Three years later, we assess the reach of our work around media literacy and gather feedback from those who could use these resources in preparation for informed political decision-making. In this paper, we will provide a timeline of media literacy events covering similar content with different audiences and review the impact on participating faculty, students, and community members. Finally, we will discuss how we might use the feedback from these discrete and ongoing experiences with and without librarians to inform a media literacy campaign preparing for an upcoming national election.

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Keywords: *information literacy, community outreach, critical information transfer, fake news*

Primary School Library – Basis for Lifelong Learning and Using of Library

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Information literacy is one of the basic skills or competencies in our lives. It is important that we start with teaching how to handle information early - already with children in primary school. There is an enormous amount of information and every one of us must be able to search, evaluate, critically select and responsibly use that information.

The school library is the information centre of the school and all students must have access to use its various sources: books, newspapers, magazines, web pages and on-line sources. Student must think of the library as a place for learning, researching, and reading for pleasure.

Primary school library is usually the first library students get to know and visit it. Every student in Slovenia visits a primary school library at least once. Therefore, we build the foundation for lifelong learning and using the library as a source of information and using other types of libraries (faculty, public, university, special...).

In Slovenia, every school must have a school library and qualified school librarian. In Slovenia, minimum 36 classes (in primary school) of library information science as cross-curricular theme are obligatory. That is, collaborative teaching with one of the subject teachers. The content of the library information science must be integrated or incorporated into the lessons in such a way that the contents of the objects are enriched, and give them added value. The school librarian is a teacher and is qualified in both librarianship and pedagogy science. In Slovenia, we have a curriculum for LIS (Library Information Science) for primary and for secondary schools, which were adopted by the expert council at Ministry of Education. That means that all schools are obliged to implement curricula in the range as stated. The main overall objectives are reading, learning and information literacy.

The start of lifelong learning of managing information and sources of information begins in primary school. According to our curriculum, in first years we use as the school library as an information source, then the public library and afterwards other types of libraries. It is much easier for users and school librarians when there is one program for searching books or documents in all types of libraries. In Slovenia, we have COBISS – cooperative on-line bibliographic system and services. COBISS represents an organizational model of joining libraries into a national library information system with shared cataloguing, the COBIB union bibliographic/catalogue database and local bibliographic databases of participating libraries.

Before 2016, when the Librarianship Act was passed, some school libraries were using different programmes, which the students learned but when they went to the public library, they found another programme and they had to learn it anew. In 2016, all school libraries switched to a single system and now it is much easier – for librarians and especially for users. In primary school we start to teach how to use one programme (COBISS), later on all libraries in Slovenia have this system, and users are less confused and feel more competent to search the catalogue in every library separately or search in one database for all libraries together – COBIB.

Keywords: *school library, information literacy, curriculum, LIS, Slovenia, lifelong learning*

The Sustainability of Faculty-Librarian Partnerships Inspired by the ACRL Framework

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Librarians have made strides to become partners with faculty in student learning, and library instruction has evolved from modeling how to search a database and locate a resource to intentionally designed information literacy instruction. In the past decade, organizations have revised information literacy standards to address these evolving approaches to library instruction. In 2011, the Society of College, National and University Libraries (SCONUL) revised the Seven Pillars of Information Literacy to expand beyond skills. The Association of College and Research Libraries (ACRL) also revised their standards, filing the Framework for Information Literacy for Higher Education in 2015. These documents provide guidance and support for academic librarians in higher education institutions.

Although many librarians have had success with faculty-librarian collaborations, sustaining these collaborations is often challenging. In this presentation, the presenters discuss the sustainability of faculty-librarian partnerships, specifically in the context of collaborative work around the ACRL Framework. We draw on eight case studies of faculty-librarian partnerships that grew out of a 2017 workshop of librarians and disciplinary faculty hosted by the American International Consortium of Academic Libraries (AMICAL). After attending a two-day workshop experience in which a librarian and a disciplinary faculty partner worked to infuse concepts from the ACRL Framework into a disciplinary course, these faculty-librarian pairs returned to their institutions to implement their projects. In a recent edited volume, participants reflect on the successes and challenges of these partnerships via case studies (Stoepel et al., 2020). In this presentation, we provide an overview of these case studies, which come from seven different American universities in seven countries in Europe, North Africa, and the Middle East. We discuss the positive outcomes of these partnerships, including their impact on student learning. We also discuss the challenges workshop participants have faced in sustaining these partnerships, for those represented in these case studies and others. We offer suggestions for others hoping to start new partnerships between librarians and disciplinary colleagues. Finally, we discuss aspects of the ACRL Framework that are conducive to partnerships embedded in disciplines outside of information literacy, for example, its emphasis on broad conceptual understandings that can be applied across subject disciplines, as well as its flexibility in application.

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Keywords: *faculty-librarian partnerships, ACRL Framework for Information Literacy for Higher Education, information literacy, case studies*

Promoting Information Literacy in a First Year Global Experience

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Introduction

At Northeastern University, the N.U.*in* program gives first year students the unique opportunity to spend their first semester of college studying abroad at one of Northeastern partner institutions. The N.U.*in* program was established in 2007 and one of the program priorities is to promote a signature first year global experience and cross-cultural education. The students choose one of nine sites around the world and spend the first year abroad and then return in the spring semester to Northeastern University Boston campus.

Beginning in Spring 2019, the Northeastern University Library established a partnership with this quickly growing program. A collaboration developed between the First Year Experience (FYE) Librarian and the Outreach and Online Learning Librarian (OOL) to design and provide quality distance education that centered on developing information literacy (IL) skills.

Objectives

The librarians developed online learning objects and dynamic teaching tools to provide quality education and interactive learning modules for students to complete. The challenge centered not only on these students being first years and unfamiliar with college level research methods and skills, but also being away from Northeastern's home campus in Boston, Massachusetts. This would have them return to the Boston campus with an equivalent skill set to their peers who spent their first year with a physical library and in-person research assistance with librarians on hand.

This paper addresses how these partnerships came to light, what standards were created to develop the online educational tools and learning objects, how other institutions can create a similar instructional program, and what best practices exist to create and teach information literacy through an international, distance program.

Methodology

The FYE Librarian and OOL Librarian worked with the NUin program and Chancellor's Office to develop a research project that would enable students to connect with Northeastern University and their NUin locations while developing their research and writing skills. The FYE librarian was embedded into all the courses hosted on Blackboard, the university's learning management system. This allowed them to embed Leganto lists, a resource list management system, into their Blackboard. The lists contain articles, journals, multimedia, and various other learning objects.

Impact of the collaboration

This collaboration involved multiple collaborations within the library (between the FYE and OOL Librarians) as well as a collaboration between the library and this global student program. This not only enriched the development and building of information literacy tools, but also made the library an active partner in larger initiatives with which it was not previously involved.

Outcomes

The main outcomes are centered around four main points:

- Training instructors and librarians on developing and using these tools to best serve the students;
- Determining what online learning objects are best suited to student engagement and participation;
- Assessing the impact of the learning objects and distance teaching; and,
- Continuing to create and develop best practices and ongoing IL skills training for both the students and the instructors.

Keywords: *first years, information literacy skills, distance learning, online learning, emerging technologies*

How Did They Transfer? Information Literacy Competencies and Adult Students

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Objective

The purpose of the study was to ascertain the extent to which adult students who had successfully completed a two-credit information literacy (IL) course during the first year of an undergraduate program subsequently applied learned competencies in area-of-interest courses.

Methodology

The author conducted a study using rubric components based on the Association of American Colleges and Universities, (AAC&U, 2016) Information Literacy Value Rubric. The latter was used to assess adult students' application of the IL principles to a research paper required in a liberal arts undergraduate degree. The researcher utilized components of the VALUE Rubric built on the theoretical framework of the guidelines from the Association of College & Research Libraries (ACRL, 2000) Information Literacy Competency Standards for Higher Education. The study started *before* the new Framework for Information Literacy was adopted. This study was implemented in a medium-sized liberal arts college in the northeastern United States. Participants were students who had completed the IL course in a previous semester, had achieved a benchmarked score, and were enrolled in an intermediate or senior level course. Locus was a school for adult learners based on the andragogical model of adult education. This quantitative study utilizing rubric assessment, afforded the researcher the opportunity to go beyond traditional assessment and use purposive assessment to ascertain how students had used cognitive skills in analyzing, synthesizing, and incorporating ideas from various sources into created scholarship. A norming session was completed by the team of raters, three teaching librarians who were experienced with teaching the research course. The methodology included rating end-of-semester research papers students had submitted in discipline-specific courses.

Outcomes

Students demonstrated a greater ability to find appropriate scholarly resources and to incorporate those ideas into research papers than the ability to acknowledge and substantiate attribution. Findings are relevant for employers, colleges and universities, and adult students, and suggest that:

- an IL course should include multiple modules focused on methods of access to categories of source materials with relevance to the academic discipline, or convergence of disciplines;
- and, more emphasis should be placed on academic writing styles with focus on *methods* of incorporating ideas.

The study has informed the small body of empirical work on information literacy and adult students in academia, specific to using rubrics assessment of student scholarship within the academic disciplines as colleges prepare students who need to be able to “transfer the knowledge gained into real world experiences” (DiBenedetto & Myers, 2016, p. 29).

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Keywords: *adult students, colleges and universities, information literacy, norming, rubrics*

“Would You Like to Be a Library Peer Advisor?” Librarians Leveraging on Student Peer-to-Peer Learning to Add Value to Information Literacy and Learning Programmes at the Singapore Management University (SMU) Libraries

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Objective

Numerous studies suggested the benefits of hiring or engaging students in peer learning (Bodemer, 2014, p. 176; O’Kelly et al., 2015, p. 163). Others opined the approach poses challenges and limitations. For example, students may not necessarily have the interest and motivation to do the work (Schobernd et al., 2009, p. 197) and the involvement of students gives rise to existential-like ambiguities that question the worth of librarians as professionals (Faix et al., 2010, p. 94). These are pertinent issues for academic libraries to consider for collaborative engagements especially with declining enquiries and the self-help nature of Gen Y, even here at SMU Libraries, where data from freshmen surveys noted that students prefer to approach their peers. The objective of this project was to engage a team of senior students to help their peers in information literacy such as in citation help, conducting database workshops, and library tours. In 2017, SMU Libraries piloted a peer-to-peer learning experience, where student facilitators (second-year students) were trained to conduct library orientation programmes for freshmen. Building on this success and, more recently in 2019, the library made the decision to encourage student facilitators to consider extending their participation as library peer advisors (LPA). This contribution highlights the process from recruitment to training and deployment and lessons towards a sustainable model. To embark on this, the library needed to know what works for students.

Methodology/Approach

For this study, the library administered an anonymous online survey to second-year student facilitators to gather information on their perception before making the decision to participate as a library peer advisor. Questions focused on students’ expectations, preference, and motivations; factors which might or might not lead them to consider their involvement to become a library peer advisor. In addition, the survey asked students to identify possible areas they would be interested in to offer help.

Findings & Practical Contributions

Overall, the investigation showed that when making the decision to participate, respondents identified with benefits of self-driven interest, the ‘what’s in it for me’ more than they do with the perceived personal values of concern-related. The top emphasis was on monetary incentives and career-related benefits, that suggest the practical and motivational needs of students.

This contribution details the library experience in collaborating and nurturing a group of SMU students to provide a library service for undergraduates by undergraduates. It can help academic libraries know what the contextual concerns are for a library peer-to-peer learning initiative, student motivations, and how library can use those insights to continuously design and develop inclusive student-centered services.

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Keywords: *library peer advisor, peer-to-peer learning, student motivation, motivational needs, self-driven interest, information literacy, academic librarians*

The More the Merrier? - Looking at LibGuides through the UX Lens

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Being able to differentiate between information and disinformation is more critical than ever. Our goal was to transform LibGuides from a collection of guides to an instruction-oriented service to further promote critical thinking and information literacy skills needed in this so-called post-truth era. Another impetus for this change was the merger of the Lahti Academic Library with the Lappeenranta Academic Library, which brought the need to standardize two sets of different guides and their content.

Initially, excited by the new, easy-to-use platform, librarians wrote excessive guides, pouring all available information to the guides, rather than curating and providing only the necessary for a given situation (see also German, 2017). However, studies show that having to read through large amount of irrelevant information leads to frustration and adds to the learner's cognitive overload making the materials less useful (Thorngate & Hoden, 2017). This raises the need for high quality and easily usable e-learning materials.

Research Methods

We started by evaluating the structure of current guides and assessing the need for each guide separately with the help of user statistics. The best practices and findings from usability studies found in literature were used to guide our evaluation.

Following the initial evaluation, we turned our attention to our main user group: -the students. According to Sinkinson et al. (2012) students and information professionals understand and would organize research guides rather differently. We wanted to ensure that our guides were useable and relevant primarily to our students and not only suitable for library staff. To achieve this goal, we collected feedback using an online questionnaire and mixed methods.

Changes & Best Practices

The initial evaluation revealed some issues that were easy to fix, like small text-size, ambiguous guide names, and other accessibility features. On the other hand, some changes require more work, for example eliminating library jargon from the instructions and adding visual elements to help navigation and support finding most salient content.

The evaluation also revealed a need for a revision schedule so the relevance and content of the guide would be reviewed on a regular basis as the information landscape is ever changing in this post-truth era. New trends, like fake news emerge that we need to combat. At the same time, not everything stays useful and relevant, so it is important to learn to kill your darlings.

The improvement process is continuous and iterative so we will also utilize mixed methods with a small focus group including paper prototypes and think aloud protocol (TAP) and advanced scribbling (see also Almeida & Tilad, 2017) to gain better insights and see if the adjustments we have made are in the right direction. We will present our questionnaire and focus group results along with our recommendations on further steps that can be taken to improve user experience in library guides.

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Keywords: *information literacy, Libguides, research guides, user experience, critical thinking*

Information Literacy vs. FakeScience: What Libraries can do to Support Science and to Win This Fight

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In July 2018 investigative journalists claimed to have uncovered a science scandal in Germany. On July 23, 2018 German TV broadcasted the report “Fake Science – Die Lügenmacher” (the lie maker) (Das Erste, 2018). Three days earlier one of the most important German newspapers, the Süddeutsche Zeitung, denounced the business practices of predatory journals and stated that increasingly bad and fake studies were being published with the appearance of being scientific. The press presented numerous examples of how easy a fake article was written and published in supposedly scientific journals or a fake contribution was accepted by a supposedly scientific conference. Universities and libraries reacted quickly to these allegations by providing information for scientists and the public and showing that the proportion of publications in predatory journals in Germany was below the per mille range. However, this temporary public outrage showed very clearly the need for libraries to strengthen the information literacy of scientists, students and citizens concerning the value and the evaluation of scientific publications, and to treat fake science and predatory journals in their courses.

Fake Science can be divided in to categories. Fake science can be defined as intentionally faked scientific results for a specific purpose. But fake science also means research results that pretend to have been refereed within the recognized quality standards but have not without being necessarily wrong. We present examples for fake science and discuss the teaching activities of university libraries in Germany use to protect their users from fake science, to identify predatory journals, and to explain the mechanism of the publication market. These activities include courses, webinars, e-learning, and games. The basis for library course can be the Framework for Information Literacy (ACRL, 2016). The knowledges practices and dispositions of these frames: Information Creation as a Process; Information has Value; and Authority is Constructed and Contextual can be used to develop concepts for library courses. The target group are scientists, students, und citizens.

We argue that librarians must understand that information literacy goes far beyond research competencies and includes a deep understanding of publication and research processes. Libraries must play an important role in the fight against fake science.

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Keywords: *information literacy, fake science, academic libraries, Germany*

Comparison of Frameworks as a Basis of a New IL Taxonomy

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In the Netherlands, libraries from institutions of higher education (both universities and universities for applied sciences) worked together in sharing information literacy (IL) materials via Open Educational Resources (OER) platforms. The intention was to take the IL education to a higher level and raise more awareness for the open education movement. We developed a taxonomy to be able to share and find these IL materials more effectively.

We compared and analysed all the main IL frameworks (ACRL, 2016; Armstrong, Boden, Town, Woolley & Webber, 2005; Bent & Stubbings, 2011) as a basis for this new taxonomy. We defined the facets by mapping the different IL frameworks and recognizing the common denominators in the headings. In this way we defined the main classification of our taxonomy.

We created a wordcloud based on existing online IL courses by using text mining software to gather the most used terms in IL education. We used card sorting software to test and optimize the taxonomy. We asked colleagues to comment on the facets and to place terms in the different facets to make sure the taxonomy will be useful for everyone. As a result of the tests, we revised the taxonomy a few times.

During this presentation we will demonstrate the taxonomy IL and explain the the process of creating this taxonomy.

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Keywords: *information literacy, open educational resources*

International Standards and Guiding Documents for Information Literacy: The Relevance of Knowing and Applying Them to National Contexts

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Librarians at higher education want to support students in the pursuit of their academic work, based on the good use of information. To this end, it is important for them to know the emerging pedagogical changes that they can take advantage of when designing their courses, integrating this knowledge into a more segmented, clear, and objective training offer, based on international references, published in the last decades, since the ACRL Standards (ACRL, 2000) and until the ACRL Framework (ACRL, 2016). The attention given to these documents can prepare librarians for the necessary updating of skills, supporting innovation and best practice achievement. But how to work with international guiding documents in a more appropriate and meaningful way, bringing benefits to themselves and to the academic communities in which they operate? This study aims to systematize the evolution of concepts and practices in the information literacy guidelines in higher education and their application to Portuguese guiding documents. Methodology: An exploratory survey of international information associations was conducted to identify information literacy guidelines. The content analysis of these guidelines allowed the identification of pedagogical trends in the performance of libraries and their professionals. The analyzed contents show an interpretative evolution of the guidelines, converging in the ACRL Framework. Incorporating principles of reflective practices and the scholarship of teaching and learning, user education librarians hosted a teaching circle designed to get librarians reading, talking, and discussing the ACRL Framework, as previously explored in several studies (e.g., Berg, 2020). Finally, a national intervention in Portugal is shown. At the beginning of 2020, the Working Group for Higher Education Libraries published the new “Recommendations for Higher Education Libraries 2020-2022” (Príncipe et al., 2020). The first recommendation, integrated into the first strand of action (Support for Teaching and Learning) refers to the importance of “Strengthening skills in information literacy” and advocates: Strengthening skills in information literacy in line with the needs of users, establishing training for diverse audiences with resources of different formats and channels, offering quality training programs that include integrative approaches, a definition of learning objectives and planning with resources from international references. It is evident that the librarians updating of skills implies being aware of current trends for the sector, but also implies transforming them into practical tips and recommendations appropriate to each national context.

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Keywords: *information literacy, higher education, competences, learning, teaching*

‘OneHE Mindsets: Information, Digital and Media Literacy’ Community of Practice

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In Higher Education, there is a continuing and growing interest in issues, which relate to students’ development of information, digital and media literacy for participating, collaborating and communicating ethically and responsibly in the digital environment. These place emphasis on experiences from educational contexts but also from those situated outside students’ formal academic contexts (i.e., everyday life and workplace). This paper presents an open community of practice, ‘OneHE Mindsets’, whose value as a global forum for conversations and debate, is becoming even more important with the pandemic crisis, bringing together emerging mindsets that discuss the lifelong development of students’ information, digital and media literacy. These literacies are approached from the perspective of students’ transitions in and out of HE and based on their value in informed, active and engaged civic, social and cultural participation, and personal growth and development, advocating a whole person education (creativity, innovation, career development and employability, self-esteem, self-expression). In the freely available ‘OneHE Mindsets’ online community (Twitter: @OneHEmindsets), which already has 175 subscribed members and is accessible via the global network www.onehe.org, we bring together an international and interdisciplinary member base (e.g., information literacy, digital and media experts, academics in different subject areas, librarians, learning technologists and students). The online community places value in students’ development of informed, active and engaged citizenship, democracy, social involvement and cultural participation, as well as personal growth and development (creativity, innovation, career development and employability, self-esteem, self-expression). ‘OneHE Mindsets’ collates interesting projects and links to resources from around the world, addressing the themes of focus for the community and organises different online events, which, so far, have attracted hundreds of people from the international learning community to showcase work, discuss opportunities and engage in collaboration. To-date ‘OneHe Mindsets’ has organised a number of freely available online events (e.g. webinar, fire-chat and interactive workshop) covering diverse topics such as: information literacy online delivery approaches in COVID-19; students’ online communities of learning; the design of learning to enhance metacognitive skills and harness virtual learning; student belongingness in the online environment; enhancing students’ digital innovation and reflection skills; personalised video instruction to online information literacy; young people’s information and digital literacy; approaches to evaluating political ‘facts’ in the fake news era; and communities of practice for staff development in information literacy. ‘OneHE Mindsets’ is now expanding to incorporate community-led micro learning activities that will help to empower educators, practitioners and students and involve online conversations with researchers. The first one includes the topic of online communities of learning, drawing from Communities of Practice (CoP) theory, emphasizing the value of engagement, imagination and alignment as well as student belongingness, which is described in more detail via this work: <https://www.slideshare.net/martzoukou/student-belongingness> ‘OneHE Mindsets’ are now extending an open invitation to those interested to join the managing team and/or become active members of the online community.

Keywords: *information literacy, digital literacy, media literacy, community of practice, Higher Education, life-long learning*

PECHA KUCHA

Using Open Pedagogy as an Information Literacy Intervention for LIS Students: A Case Study

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This case study involved the experimental use of open pedagogy to teach graduate-level library and information science (LIS) students in a newly developed course on international and comparative librarianship. Open pedagogy is the theory and practice of engaging students as creators of course content rather than requiring them to be consumers of it. In this case, LIS students created their own textbook as an open educational resources (OER); each student authored a chapter that featured the libraries and the field librarianship in an assigned non-North American country. Notwithstanding the surface-level benefit of textbook cost savings, the use of open pedagogy has significant information literacy implications; published research suggests the use of this method can facilitate greater student mastery of course subject matter (DeRosa & Robison, 2017; Hegarty, 2015; Ossiannilsson, 2018; Wiley & Hilton, 2018). This was the primary motivation for the presenter to incorporate an open pedagogy experiment in the international and comparative librarianship course, and further, to conduct the investigation described in this paper.

The student-created open textbook was developed under a Creative Commons license, allowing free use, remixing, and repurposing in future sections of the course or in similar courses offered in LIS programs at other institutions. Given the experimental nature of this undertaking, the presenter investigated whether students who are required to create their own OERs find such assignments valuable, interesting, motivating, or rewarding, if making those assignments publicly available generates greater mastery of the subject matter, and whether there are any drawbacks to the practice. The presenter collected data to this effect by way of an administered survey and a complementary reflection paper assignment. The results give credence to the notion that adopting an open pedagogical framework can serve as an effective information literacy intervention. The presenter will provide a brief overview of the experiment described here, the revealing results, lessons learned, and potential implications moving forward.

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Keywords: *open pedagogy, information literacy, LIS education*

How Primary Source Literacy Instruction can Transform Student Learning in Post-Truth Times

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The University of Southern California Libraries' Special Collections have built a comprehensive primary source literacy instruction program over the last 10 years.

With the highly interdisciplinary nature of instructional collaborations in Special Collections (in 2019, students and instructors in the over 140 class visits came from 25 different disciplines), the department is the perfect hub to teach students much needed critical thinking skills in Post-Truth and Fake-News times. Given the times we live in, instructors at the University of Southern California increasingly design courses that address the most pressing issues of our times. Many of them build class visits to Special Collections into their syllabi or teach their entire classes in Special Collections to make use of the rich and diverse collections that are housed here.

The PechaKucha presentation will provide an overview of how librarians at USC Libraries' Special Collections use historical primary sources, such as materials from their Exile Studies collections that document persecution, censorship, propaganda, and refugee issues, or materials from collections on current political and societal issues such as the Los Angeles Women's March Poster Collection in their teaching. Through thoughtfully prepared lesson plans, students get to interact hands-on with selected materials in Special Collections. The direct, personal interaction with primary source materials that relate to their class topics foster students' curiosity and engagement with the materials and the stories behind them. More importantly, students learn how to critically evaluate the resources, how to evaluate the perspective of creators of sources, including tone, subjectivity, and biases, and they learn to identify and consider reasons for silences, gaps, or power relationships in the archival record.

Keywords: *primary source literacy instruction, special collections, active learning, critical thinking skills, archival literacy*

Information Literacy in Slovenia from Primary School to University

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Libraries offer different information sources and educate the users for their independent use. Information literacy is, therefore, becoming even more important. An active role of individuals and the Innovative Learning Environments (ILE) are in the process of gaining new knowledge of key importance. The Innovative Learning Environments are a context of learning in its broadest sense, and they connect students, teachers, contents, sources, organisation, and pedagogy. Inclusion of individualisation and personalisation of the learning process enables a more equal participation of all learners (pupils, high school students, and university students). The innovative learning environments, supported by ICT (Information Communication Technologies), enable the implementation of innovative pedagogy 1:1, which includes learning scenarios stressing the support of mobile devices in numerous learning strategies. They also introduce elements of formative assessment and new competences that are developed in technology-supported learning, and they move the boundaries of learning outside the classroom. In our context, the 1:1 term means that in the process of gaining new knowledge each student uses his/her own device (phone or tablet), which helps him/her achieve the set goals¹. The Slovene primary schools (PS) pay special attention to educate pupils on how to become book lovers and to motivate them for reading and aesthetic experience. Pupils get familiar with the library as a cultural, learning and information centre of the school, types of library materials (lexicons, encyclopaedias, dictionaries etc.), the arrangement of materials (UDC, alphabetically), library catalogues (card catalogue, COBISS+), and searching the materials by author, title or keywords. They are able to search for monographs in mCOBISS on their smartphones or tablets. The My Library service and accessing it with username and password are also introduced. In secondary schools (SS) or high schools, they learn about reading different texts (literary, journalistic...), critical evaluation and individual work with the read contents (analysis, understanding, creation). They are able to define problems as well as to collect, evaluate and use information. Citing is introduced in more detail, different kinds of libraries are presented, different types of information sources and UDC are repeated. Their knowledge of the Virtual Library of Slovenia is reviewed, and the students search for materials in COBISS+ and mCOBISS, first of all, monographs, later on serials and articles. In the segment of My Library service, the possibility of library materials reservation and the history of borrowed books are presented. At the university level (UL) or at faculty libraries students update their preliminary knowledge and learn how to cite and search for library materials in the Virtual library, electronic sources, databases, the Internet, and the university browsers (UM:MIK, Mrežnik). Library seminars in all levels are taught with the ICT support (computer room, smartphone, tablets) and open-source learning management system (Moodle). Library contents are taught with methods of explanation, research, projection or demonstration, and evaluation. Information literacy courses in primary and secondary schools are part of the Compulsory Optional Contents (COC) and are called Library Information Knowledge (LIK). At universities, they are part of ECTS (i.e., European Credit Transfer System) Accredited Extracurricular Activities, like for example at the University of Maribor (UM). Information literacy at Slovene universities is also taught in the form of IL modules for specific subjects and often after personal contact with professors. Library Information Knowledge is part of the primary and secondary school curricula and at the UM part of the extracurricular course syllabus. Librarians are facing a challenge in how to provide information literacy on the secondary school level and at the university, for the secondary school students and freshmen at the university have different levels of information literacy or insufficient prior knowledge. Librarians teaching information literacy at different levels collaborate within various projects (*How is a book made? Cultural diary*, and *Growing with a book*), and primary and secondary school librarians are also cooperating in study groups. All of them are active individually on different levels and according to syllabi.

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Keywords: libraries, information literacy, innovative pedagogy, COBISS+, mCOBISS, UM:NIK, Mrežnik

The Four Tendencies Framework in Information Literacy Class

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In her book, *The Four Tendencies*, Gretchen Rubin (2017) divides people into four types according to their response to inner and outer expectations. Since this personality framework helps us to better understand our students, we can use it in our information literacy class to improve relationships with our students and to teach more efficiently.

The most difficult group are Rebels. They struggle with both inner and outer expectations. They automatically decline to execute any task. It is important to present the task as a choice to them. To direct them towards our goal, we should provide them with enough information, articulate the consequences, and let them choose the course of action.

Questioners do not easily accept a given task, either. They meet only inner expectations, so they have to embrace the task as their own goal. We have to provide them with good reasons. They need to see why is the task beneficial.

Obligers respond very well to outer expectations and they will complete the given task. However, they are not able to meet their inner expectations, motivate themselves and might struggle in case of a longterm task or a task without a fixed deadline. Therefore they need supervision and outer accountability.

The last group are Upholders. These students will easily meet all inner and outer expectations. They will perform excellently, but they will follow every rule very strictly. Therefore we have to be careful not to imply a rule accidentally.

If we cannot approach our students individually, we should strive to communicate our expectations effectively for all four groups. The formulation of information-consequences-choice is the most effective solution. For example, when giving homework, we should explain, why is the homework useful, what the students learn by doing it, what they lose, when they do not finish their homework and do not learn this skill, and what it could bring for their future studies and life.

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Keywords: *upholder, obliger, questioner, rebel, expectation, motivation*

Information Literacy, Embedded Librarianship and ESL Students

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Academic Librarians and faculty are experiencing a growing number of English Second Language (ESL) students every year. According to the Open Door Reports (2020), there has been a rise in international students coming to the United States. Since 2015/16, the number of international students in the U.S. increased by 7.1% to 1,043,839 students and then again between 2017-18 there has been a 1.5% increase. Over the past few decades there has been much conversation in library literature of ESL students who require special consideration by academic librarians. Faculty and academic librarians have increasingly become aware that information literacy skills and plagiarism for English language learners whether they are international or bilingual students, is not a known skill but learned at academic libraries in the United States.

Objective

Many ESL students enter the classroom with steep learning curves related to their written and oral skills, not to mention a lack of exposure to concepts of intellectual property, copyright, and academic plagiarism (Herring, 2014). This presentation outlines the problems ESL student learners face in academic courses in the United States with issues such as low information literacy skills and understanding plagiarism. The question is, how can faculty and academic librarians assist ESL students alleviate the fear of plagiarism and instead equip them with information literacy skills in this fast pace digital information age?

Design/Methodology

These issues and question pursue a collaboration between the ESL instructor and librarian to embed specific library instruction lessons with visual aids, technology, and active learning to assist students to be information literate. These efforts focused on incorporating a research project that students are asked to present at the undergraduate Student Arts and Research Symposium (StARS) at the end of the semester.

Outcome

According to Dewey (2004), embedded librarianship is a relatively new concept in information literacy instruction, but pedagogical models such as the above lead to more prolonged and better outcomes for student success in research and writing. When librarians and information literacy are authentically embedded into a course, students realize that library instruction is not a separate module but is an integral part of their course (Sullivan & Porter, 2016).

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Keywords: *information literacy, ESL students, collaboration, embedded librarianship, academic libraries*

IL Innovation by Collaboration in the Netherlands

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Until recently, library information literacy (IL) courses were mainly focused on classical search skills. However, developments in the information landscape do ask for a broader metaliteracy approach and additional competences of students. It is therefore important that library services closely match both subject-specific and didactic developments influencing the learning process. To foster innovation and to bring IL to a next level the decision has been made to join forces in the Netherlands by establishing a nationwide Working Group Information Literacy in 2019.

In this working group, libraries of universities, universities of applied sciences, and the Royal Library actively cooperate. Nationally, it functions as the central contact point for libraries and other partnerships in the fields of education and automation. The aim is to engage in a collaboration internationally as well, for instance a working group such as CILIP.

Subject areas the Working Group is working on include (1) the scope of subject-specific area and didactics; and (2) open education through openly sharing and creating of educational materials and knowledge dissemination. Some of the activities are carried out within projects with the Working Group taking care of coherence between these projects.

One of the first results of the Working Group is the sharing of IL educational materials using a nationwide educational repository. The Working Group developed an IL taxonomy as well as a quality model to assess materials. Possible revision and actualization of existing materials and processes is based on debate on and analysis of subject-specific and didactical developments. This will probably lead to co-creation of new educational materials.

Examples of other IL themes include the Dutch IL working group's efforts on assessing IL using exchangeable IL open badges and measuring the effectiveness of IL training. All information and working group results will be shared on the website.

During this session the activities of the Dutch IL Working Group will be explained. Moreover, in conversation with the participants, the possibilities of more international cooperation will be explored.

Keywords: *information literacy, collaboration, open educational resources*

Vaccination and Fake News: From Smallpox to Sars-Cov-2

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Vaccinations are one of the major performances of Medicine for infectious diseases and beyond. However, since the first attempts, fake news about potential side effects inundated media of all kinds.

This “fake news” problem reemerged in the last decades and after focusing on five vaccines and/or disorders (Multiple sclerosis and hepatitis B vaccination, autism, unexplained newborn sudden death, macrophages fasciitis and aluminum, thiomersal mercury and neurological disorders), it is now on the frontline for about one year in the context of Covid-19 pandemic.

This topic combining medical history, infectious diseases, immunology and psychology is rarely well taught in medicine faculties and it requires information literacy competences for teachers, students and medical doctors. It has not been a research topic in the scientific literature either for medical or social researchers, perhaps because of the multiple competences required by young scientists to address this problem.

Social networks amplify diffusion of fake news, statements and positions enormously, in most cases without sound arguments. Last spring, some networks (Google, Facebook, Snapchat, Pinterest...) decided to implement new policies and tried to limit access to false information.

We have been curating information still circulating on the internet, using the curation tool Scoop.it, to approach the evolution of the topic, focusing on the following questions: Who are the authors of fake news/statements related to vaccination? Where are the active influencers in the global world located? What kind of disinformation is still circulating on the web? What has been done and should be done by social networks, national and supranational bodies to limit the impact of fake news on public health?

This content hub of open resources covers historical aspects of vaccinations, published material on the topic as well as actuality of information related to fake news, and to efforts of scientific and medical societies, national and supranational bodies through media and social networks on the internet. It can be used by researchers, policy makers, medical teachers, media professionals, librarians and medical students to improve their health literacy on this sensitive global topic. It might help us/them understand the irrationality of attitudes of anti-vaxxers, and the attitudes of various world populations.

Main conclusions from analysis of material collected during previous two years are the following: medical disinformation is not supported by science; some countries (USA, France, Pakistan...) are much affected, with artists and politicians, influencers, but social networks, medical societies and health national and supranational bodies are more concerned and proactive.

Nevertheless, fake news is here to stay. Violence of some social networkers and influencers might be frightening. Digital and health literacy education is mandatory to help controlling this difficult global health subject.

Keywords: *fake news, vaccinations, curation, scoop.it, social networks*

POSTERS

Teaching Discipline-Specific Critical Thinking Skills

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Critical thinking is a liberating force and a necessary skill in the information society (Facione, 1990). This implies that educated citizens engage in “purposeful, self-regulatory, judgement that results in interpretation, analysis, evaluation, and inference, as well as explanations of the considerations on which that judgement is based” (Facione, 1990, p. 3). But students and teachers alike feel dissatisfied with their competence in critical thinking, which may in part stem from a poor understanding of what is meant to be taught and learned and how.

Drawing on research on argumentation, critical information literacy, self-regulated learning and epistemic cognition, including insights that stress the need for disciplinary learning and knowing (e.g., Alexander, 2014; Greene & Yu, 2016; Sandoval, 2016), we designed an 8-week intervention for first year students of educational sciences at a large Norwegian university. Our aim was to foster critical thinking through explicit training and modelling of cognitive processes, such as strategic reading and argumentation strategies, and ways of engaging with short, popular scientific and longer, curriculum-based texts, including source evaluation and understanding implicit assumptions, as well as creating and maintaining an open-minded and inquisitive epistemic climate where we shared responsibility and authority with the participants. Key features included teacher-led, small-group discussions, oral participation, scaffolded and structured summation, formative feedback and student log-books. The class benefitted from the participation of faculty that shared their thinking and working methods, while acting as models of varying degrees of expertise for the students. Focus-group interviews indicate that our approach was useful (see Ferguson & Bubikova-Moan, 2018).

Based on insights from this pilot study and earlier research, we wish to scale up the intervention and implement it at different educational levels and in a different discipline: language arts classes in lower secondary schools and in a teacher education program. An important feature of the new intervention is researcher and practitioner co-construction of teaching materials to ensure that teachers understand how critical thinking can be taught and are willing to invest time and effort in its teaching within their own classrooms.

Critical thinking will be fostered through a combination of direct and dialogic small-group instruction where students gradually take over responsibility for discussions. Co-designed teaching and examination materials will be based on literature on argumentation and combine insights from the fields of epistemic cognition, critical information literacy and self-regulated learning. To assess efficacy of the intervention and its implementation we suggest use of rubrics that stipulate specific practices (both for teachers and students). Through a mixed-methods design, we aim to generate new insights on how to promote teachers’ ability to think critically and foster discipline-specific critical thinking in young students through their professional practice. A further aim is the design and use of class assignments that reward signs of critical thinking and its component parts, such as reasoned arguments and strategic source evaluation and use. In our poster presentation, we wish to discuss critically and receive input on the intervention design and its implementation.

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Keywords: *critical thinking, teaching, intervention, strategic reading, argumentation, epistemic cognition*

Information Literacy: Ontology Structures User-Learner Profile in Online Learning Environment

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The research work's objective is to present the preliminary results of work in progress on the design of a semantic ontology for the user-learner digital profile, the OntoPAUN. The latter is developed in the context of thematic digital universities. These are online learning environments for the purpose of creating Open Educational Resources (OER) as well as improving information literacy. The thematic digital universities are supported by the French Ministry of Higher Education, Research and Innovation and designed for learners and teachers. The user-learner digital profile refers to the representation of a person's identity on the Web. The OntoPAUN's usefulness is to structure the user's digital profile in these learning environments and establish relationships among concepts. For the time being, the applications resulting from this ontology are two Web pages, namely the user-learner's registration profile and dashboard (Verbert et al., 2013). User-learners from any culture, social environment or with disabilities could use the OntoPAUN and its Web pages to customize as well as analyze their search for OER. To our knowledge, research projects addressing this subject are limited.

We rely on the methods of ontologies (Gruber, 2008) and semantic matching (Giunchiglia et al., 2018). The ontology describes a structured set of concepts by giving meaning to an information system in a specific area and allows the construction of relationships among these concepts. The semantic matching searches for unique correspondences of given mapping concepts in tree-like schemas and considers the concepts' positions in these schemas. The ontology's design is based on the Information Management System Learner Information Package specification (IMS LIP) (Smythe et al., 2000). It is enriched by the taxonomy of educational objectives (Bloom *et al.*, 1984) and the ontological character of knowledge organization system. The OntoPAUN is made up of five subsystems which are: user-learner, user-learner model, knowledge organization system, educational objectives, and learning design. We then develop both Web pages and the secured database. The OntoPAUN could be implemented in the structure of a company's or public organization's information system. Many areas may be interested in this ontology, for example, adaptive learning and serious games. We are interested in the areas of engineering and technology, namely the digital university of engineering and technology (UNIT). The latter is part of the thematic digital universities. A technical test is conducted to assess the ontology's capabilities and precision. The OntoPAUN, Web pages and database are integrated into a UNIT private website. The user-learner can register to the platform, search for OER by keyword, and display the search analysis in the dashboard.

This research project provides the user-learner with an ontology that covers a range of questions related to the search for OER, in order to guide her/him according to her/his needs and expectations. In the near future, we will improve this first ontology by further deepening our study of concepts, so that it gains more precision and performance. We will conduct qualitative and quantitative studies to analyze participants' behavior while using OntoPAUN and its applications. We will develop a dashboard for teachers to analyze the viewed OER, according to users-learners' search and activities (Charleer et al., 2014).

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Keywords: big data, information literacy, online learning environment, open educational resources, ontology

Towards Meme Literacy? Lessons Learned from Teaching How to Use and Share Images

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Why Do Memes Matter?

Since the early 2000s, Internet memes have been changing the way Internet users communicate in the contemporary digital culture. The term “Internet meme” refers to certain type of jokes, parodies and other humorous material – often viral – that spread over the Internet.

Alongside with selfies, memes have become symbols of self-expression in the digital age. Shifman (2014, p.15) described memes as “[...] (post)modern folklore, in which shared norms and values are constructed through cultural artifacts such as Photoshopped images or urban legends”. The origin of memes lies in the user-driven copying, imitation and remixing practices.

What should a university librarian or pedagogical professional think about memes? Are memes just harmless short-lived online gags? Should institutions consider memes in their information literacy teaching? How to promote “meme literacy”?

The Course Outline

In the autumn of 2019, the Helsinki University Library organized an online Moodle course “The Copyright of Memes and Images” as a special course in information seeking. It was a voluntary course targeted at bachelor’s and master’s students studying at the University of Helsinki and the teaching language was Finnish.

The starting point for the course was simple: to give the university students the opportunity to practice skills that they need when they acquire, collect and share visual material on the internet. The course included the basic concepts of meme culture and Finnish copyright law, how to use Creative Commons licenses, find stock photos and use reverse image search tools. The intention was to give the students tools to understand better how we use and share images in today’s digital world.

The teacher had to curate existing material as well as create new learning material. The library produced, for example, an interview-style video (in Finnish), in which a law scholar explained the key concepts about the topic.

The Learning Outcomes

What was the outcome of these efforts? According to the student feedback, the decision to teach this course paid off. In general, the students reported that they had learned new skills that they can use in the future. Understanding how memes work can teach both the teacher and students several things about the current digital culture.

Meme literacy is a combination of digital and communication skills, information literacy and being familiar with the legal framework. Students benefit highly from learning to use tools that help them to deal with visual materials in work, studies and everyday life. Technological innovations tend move further ahead first, whereas legislation slowly follows. The students who know how to legally use and share images are already a step ahead.

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Keywords: *memes, copyright law, images, meme literacy, visual literacy, intellectual property rights, digital culture*

DIGI-KOMP.NRW - Media and Information Literacy as a Focus in North Rhine-Westfalia

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Efforts in digitalization in North-Rhine-Westphalia

The vision of the federal state government of North-Rhine-Westphalia (NRW) is that digitalization will lead to new chances, growth, prosperity, and participation in society for the people (MWIDE, 2019, p.3). As part of the so-called “Digitalisierungs-offensive” of the state, universities receive extensive funding to achieve these goals (Staatskanzlei NRW, 2018). The strategy of the state identifies the transfer of practical digital skills, basic education in computer science and critical media literacy as the main tasks of the educational sector and emphasizes the development of adequate formats of educational resources (MWIDE NRW, 2019, p. 21f.).

Advancing Media and Information Literacy in University Libraries

University libraries already play a significant role in distributing these skills literacies as set by the federal state government. Under the central concept of information literacy, students are taught in classroom courses the ability to efficiently search, find, evaluate and effectively use of information in a self-organized and problem-solving manner (dbv, 2009). As per its digitalization strategy, the federal state of NRW demands that university libraries develop their profile in teaching these competencies. One important aspect is for university libraries to be open to new educational concepts. This includes elements of educational and computer sciences which frame media as an instance for transmitting and information technologies as tools for the transformation and storage of information. Adding to the development and transformation of digital learning formats, it is imperative to form transregional collaboration to focus the available expertise of librarians and to integrate other academic institutions, such as the centers for information and media technology, to collaborate on the orientation of the new educational programs. Another easily overlooked but important aspect in the discussion over the advancement of media literacy is the focus and orientation on the actual target audience, students.

digi-komp.nrw

The project “digi-komp.nrw” reacts to the political demand to further media and information literacy. Hence a cooperation of a consortium of university libraries is developing a digital learning format to further these competencies. First-year students should be encouraged and supported to acquire and extend these key competencies. After the project is finished (10/2022) the e-learning material will be integrated in the digital learning platform of the federal state of NRW which is currently under construction. The project consists of several teaching units which can be used individually. The topics are “information literacy”, “digital communication and cooperation”, “media production and presentation”, “principles of the digital world”, and “basics of data protection law”. Contents are created in collaboration between the consortia members but also external experts in education as well as members of the student body. Integration of the materials into the university curriculum is sought for. Because of the phase of early development, the presentation of the project and its content at ECIL 2021 will give an overview of the current state.

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Keywords: media literacy, information literacy, university, digitalization, library, distance learning, e-learning

Teaching Critical Evaluation of References to University Students

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Good scientific research requires the use of high-quality sources, therefore it is important to learn to identify and select reliable sources during one's studies. The critical evaluation of information sources should receive more attention in information skills courses. There are more and more sources available and their quality varies. The students also need to understand responsible research publishing practices, so as to be able to evaluate open access documents as well.

At present, the new students learn to recognize a scientific publication and get to know some scientific databases in their short library introductory session. In our information retrieval courses the students learn to evaluate the quality of a scientific publications, including open access sources. We start with technically easy to use evaluation tools to help students identify the quality of the references they have found. The bachelor's level students utilize for example, the Finnish JUFO Publication Forum rating and classification system and Ulrichsweb serials directory in their exercises to find out if a particular journal is peer reviewed. The master's level students are introduced with citation-based research analytics tools, JCR and SJR. As future researchers, doctoral students have to find high quality publication channels for themselves.

Our aim is to find the most suitable teaching strategies to improve the learning outcomes in source evaluation. In addition to learning the external characteristics of quality in publications, the goal is to achieve a broader understanding of the nature of scientific information and to understand that evaluation is an integral part of information retrieval. The students have to understand the process behind scientific publication and that information can be published in different formats. Understanding how citing effects the impact of a scientific work is also important. Students need to learn to appreciate the benefits of open science but also recognize the unwanted side effects, for example predator journals. Furthermore, they also have to be competent to rely safely on freely available information sources after graduation as well, when they no longer have access to licensed databases in the university.

We intend to conduct a survey to investigate the students' competence to evaluate scientific publications including open sources before and after information retrieval courses. We will also consult the thesis advisors and supervisors to ascertain the kind of skills in evaluation they expect the students to learn during the information retrieval courses. We presume that the best results will be achieved by cooperation between a discipline and the instructing information specialists.

Keywords: *critical evaluation, references, university students*

Teaching Librarians in Austria: Results of an Online Survey

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The Association of College and Research Libraries (ACRL) defines a “teaching librarian” as “a librarian who teaches in various contexts, and for whom teaching may be all or part of their professional responsibilities” (ACRL, 2017). Ideally, teaching librarians not only foster library skills, such as the competent use of a library's search tools, but also critical information literacy. Librarians should base their teaching and training activities on concepts of information literacy taken from library and information contexts, on recommendations concerning the fostering of information literacy defined in university policies, and on new concepts of teaching and learning.

In light of how library instruction is approached internationally, the question is how have these developments have impacted the practice of teaching librarians in Austria. What are the attitudes, strengths, and needs of teaching librarians in Austria? What aspects of information literacy do they include in the content of their courses? To answer these questions the author conducted an online survey in 2019 aimed at librarians at academic and public libraries in Austria who instruct or give trainings. Two slightly different questionnaires were provided for the participants of the survey, depending on the type of library where they worked. The questionnaires contained questions on following issues:

Librarians' attitudes towards teaching information literacy and towards the importance of expert knowledge and personal competence for teaching information literacy.

The participants' familiarity with concepts of information literacy, for instance the ACRL's Framework for Information Literacy for Higher Education (ACRL, 2015), the concept of Metaliteracy (Mackay & Jacobson, 2014), or the Framework of the German Library Association (Deutscher Bibliotheksverband, 2016).

Aspects of information literacy that they taught in their courses, and ideas from information literacy concepts they implemented in their instructional practice.

Further education on teaching information literacy they have taken and types of further education they would like to participate in.

Problems they experienced as teaching librarians, and support they needed.

Formats and methods of instruction they applied and the target groups their instruction was aimed at.

For academic librarians, the organisational settings in which their courses took place.

Demographic questions.

The poster will give an overview of the results of the survey. The relevance of the findings for training and further education will be considered.

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Keywords: teaching librarians, information literacy, attitudes, proficiencies, instructional practice, survey

Critical Global Citizenship in and Out of the Classroom: Incorporating Community-Based Global Learning and Cross-Cultural Information Literacy in an Undergraduate Course

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Community-Based Global Learning (CBGL) as defined by Hartman, Kiely, Boettcher, and Friedrichs (2018), is “a community-driven learning and/or service experience that employs structured, critically reflective practice to better understand global citizenship, positionality, power, structure, and social responsibility in global context.” This presentation will explore a collaborative effort between an academic librarian and teaching faculty member at a large research university to incorporate CBGL and cross-cultural information literacy within a service learning-based course. The process was one of connecting pedagogical theory and practice by enjoining the core service learning components of reciprocity, civic education, and reflection in meaningful assignments and learning experiences to reimagine and reenergize the course’s disciplinary components and assignments. We define cross-cultural information literacy using an anthropological frame, enabling students to connect and transcend cultures in both study and action by developing a cross-cultural perspective. That is, cross-cultural information literacy is the ability to see people, problems, issues, and solutions from various cultural orientations as well as respect for the human rights and ways of life of individuals and groups and the ability to interact meaningfully with people of diverse cultures. Through information literacy integration methods, we have developed a reimagined and revised curriculum that reinforces the significance of becoming aware of and taking into account one’s own cultural expectations, perspectives, and interaction patterns. EDUC-L295/L296 (Literacy and Leadership in Rwanda) is an existing course that prepares students for an international summer service-learning trip to work with an English summer literacy camp at a rural primary school in Kinigi, Rwanda. L295 examines the history of service and service ethics; Rwandan history, culture, and politics; cross-cultural language literacy; and, pedagogical theory and praxis training for camp instructors. It also serves, more broadly, as an introduction to Rwandan culture. Successful completion of L295 is followed by a month-long service trip (L296) that takes place during the summer term. Our efforts to realign this course with the *ACRL Framework for Information Literacy for Higher Education* have strengthened its overall impact on student learning and directly align with core campus priorities. By developing meaningful assignments, activities, and course readings that enable a cross-cultural perspective we allow students to see people, problems, issues, and solutions from various cultural orientations, as well as respect for the human rights and ways of life of individuals and groups, and the ability to interact meaningfully with people of diverse cultures. We have developed a revised curriculum that reinforces the significance of becoming cross-culturally literate as well as ethically engaged.

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Keywords: critical information literacy, social change, community engagement, identity, democracy

One-Shot Aimed at Sustainability: Scaffolded, Course-Integrated Library Instruction Workshops

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Librarians grapple with the persistent challenge of “one-shot workshops” in academic institutions across the globe. For many university librarians, information literacy instruction occurs in the form of “one-shot” instruction sessions that resemble a guest lecture (Naimpally, Ramachandran & Smith, 2012). During an instructional window that could range from 30 to 90 minutes, librarians use the one-shot workshop to introduce undergraduate students to research skills and library resources tailored to support a specific class or assignment. There is research to suggest that these information literacy sessions can be useful for immediate research projects (Howard, Hayes, & Appelt, 2014; Rafferty, 2013; Van Epps & Nelson, 2013), but students may benefit more from spaced instruction (Spievak & Hayes-Bohanan, 2013) that entrenches information literacy skills into a student’s long-term memory. This iterative approach to teaching research skills was the foundation for the information literacy program developed at the author’s institution where librarians developed a scaffolded series of library workshops that were built into required foundational courses, that all students take in their first and second years of undergraduate study.

The poster proposed herewith will illustrate the development of this series of information literacy workshops. Designed to support compulsory foundational coursework that was itself scaffolded into three consecutive semesters, this series of workshops introduced students to vital skills in discovering and evaluating sources, using subject-specific research tools, and developing sophisticated search strategies to explore complex research questions. These lessons were designed to build upon each other and reactivate students’ prior knowledge. This poster will describe the instruction program as a case study, situated in the context of a small Sino-foreign university located in one of China’s most international, cosmopolitan cities. This library serves a diverse, multinational, and multilingual community of over 1,200 undergraduate students, half of whom are Chinese nationals and half of whom hail from the rest of the world. Librarians are therefore challenged to meet students who have a wide range of familiarity with and cultural attitudes towards information literacy and research skills. The scaffolded series of information literacy workshops allowed librarians to design lessons that reach students across this spectrum and initiate them into the academic community.

In particular, the poster and handouts will outline the process of developing three scaffolded lesson plans along with a rubric for assessing student learning, incorporating active learning strategies, and technologies that enabled a sustainable pedagogy that has been used since the 2016-2017 Academic Year. It will include how librarians adapted this instructional system to function in a fully online environment in response to the COVID-19 public health crisis, that forced universities in China to transition to distance instruction. The poster presentation will be supplemented with a summary of scholarly literature that evaluates and assesses “one shot” library workshops, addressing the relative strengths, weaknesses, and opportunities this instruction model provides. This summative literature review will be available as an electronic supplement.

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Keywords: curriculum mapping, information literacy, programming, scaffolded instruction

The Q-drops – a Content Analysis

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The QAnon-movement, a conspiracy theory and political movement gaining fame in the recent storming of the Capitol in Washington D.C in the beginning of 2021, see the messages from the source “Q” as their most important source of information. “Q” has posted short messages on different message boards (4Chan, 8Chan et cetera) since November 2017. The messages comment on contemporary political events and claim to foresee political development (Operation Q, s. a.) Who the source, “Q” is, is not known, although speculations exist on the internet. At least we know that the person or persons making the posts seems to want us to believe that they have insight into the backstage of the political scene (LaFrance 2020). Conspiracy theories, and the QAnon-movement, have been investigated in the discourse of Information Literacy before. But then mostly from the perspective of the follower and his/her motives to be a part of the movement (Beene & Greer, 2021). In this presentation the foundation of the QAnon-movement will be investigated: The posts or “dumps” from the source “Q”. This will give us a deeper understanding what the followers of QAnon really believe in. Knowing the structure and actual content of the “Q”-posts will help us understand the QAnons. A practical result of this might be a greater possibility to understand and communicate with people invested in the movement.

Around 5000 posts that “Q” has made since fall 2017 are presented on different websites connected to the QAnon-movement. By performing a content-analysis it would be possible to answer questions such as who is mentioned more – Hillary Clinton or Donald Trump? Or – how many times are networks of child-traffickers mentioned in the Q-posts? In this poster-presentation I will focus on references to other conspiracy theories; the Adrenochrome-conspiracy, “Truthers”, “Birthers” and False flag school-shootings. QAnon has been labeled a “big-tent-conspiracy theory” because it constantly evolves and adds new conspiracies to its belief-system (Roose, 2020). Using a content-analysis we could gain knowledge whether these conspiracy theories are already present in the posts from “Q” or if they show up later in the process. Message spread by QAnon-followers follow a certain process in which Q-posts are discussed by followers in blogs, Youtube-channels and podcasts mixed with a general conspiracist narrative.

The content-analysis will be performed by converting all Q-posts to individual text-files. This gives us the possibility to use a analysis-tool such as GREP (s. a.) to perform searches in all posts without the distortion of the QAnon-websites own search systems (Grep Manual). A few relevant keywords per conspiracy theory will be used to find any references to it among the vast amount of posts by the source “Q”.

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Keywords: *conspiracies, Q, QAnon, content analysis, GREP*

Information Literacy Workshops: Trials and Tribulations of Public Engagement within a Pandemic

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Project Aim

This Internally funded Public Engagement| project was aimed at engaging the public of Edinburgh to provide learning opportunities on Information Literacy and online search best practice.

Two in-person workshops were organised for March 2020, to be hosted at an Edinburgh library. Prior to COVID, our proposed plan was that the workshops would draw from the Scottish Information Literacy Framework (SILF) (Crawford & Irving, 2013; Irving, 2011) to underpin their content, structure, and design. A participant-led approach was to be used to facilitate sharing of participants' lived experiences of information needs, search -behaviours and internet use, in part by demonstrating their existing information practices. This would have been supplemented with demonstrations and discussion on good practices to develop skills, based around the SILF pillars. However, COVID forced the cancellation of the workshops.

Methodology

After cancellation, rather than retire the project, the deliverable was redesigned as a series of tutorial videos that demonstrate the SILF's principles. This required a shift in methodological approach. Showcasing participants' expertise was still deemed of utmost import so online audio or video interviews were recorded with 12 participants to provide the tutorials' core content.

Questions, derived from the SILF, covered participants' understanding of the term 'information', their information-needs, how they convey and fulfill information needs, barriers they have encountered, and how they validate and share information. Participants were not asked to demonstrate information searching.

Interviews were piloted with 3 participants, leading to only minor changes. The 12 participants were a convenience sample recruited from the researchers' personal contacts. Participants included individuals from wide age and working background ranges, such as students, former civil servants, and members of civil society organisations, all of whom regularly search for and use information in their personal and professional lives.

Participants' answers to each interview question were edited together into video tutorials to be used in future in-person workshops, each with a short introduction to its topic and closing words to introduce workshop activities.

Outcomes

The interviews demonstrated the suitability of the SILF, in the form of themed questions, to provide a platform enabling members of the public to reflect on their information literacy and online search behaviours. This reflection allowed the participants to critically analyse their own behaviours, for example identifying reliance on a certain search engine, reliance on 'experts', and (in some cases) fragility of their knowledge around accessing internet services to obtain information. The outcome of the video tutorials is a contribution to public engagement and lifelong learning, although these are yet to be used in practice and suitably evaluated with participants.

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Keywords: *information literacy, lifelong learning, public engagement, workshops*

ESSENTIAL: A Project for Enhancing Key Civic Competences for the Post-truth Era

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In the post-truth era, objective facts seems to be less influential in shaping public opinion than emotions and personal belief. This post-truth reality is one of the reasons why fake news has become inescapable. On one hand, Internet and social media provide a new channel for fake news (misinformation/disinformation) to help it is proliferation, on the other hand, people seldomly verify the news they encounter. Misinformation is pervasive and could lead to serious consequences not only for individuals but also for the entire society. Thus, individuals need to be competent and intelligent users of information, should be able to critique the “news” being broadcast, and should be able to seek and find the information that is not being broadcast or otherwise prioritized by algorithms (Cooke, 2018). In other words, in the post-truth age, critical thinking and news literacy skills are the first line of defense for social well-being and survival of democracy. This poster will introduce the ESSENTIAL, Erasmus+ KA204 Strategic Partnership for Adult Education Project, the objectives of which are developing a MOOC on news literacy which will be designed to help adults to develop critical thinking skills needed to judge the reliability and credibility of news, and to empower trainers (such as librarians and other educators) to teach adults the skills necessary to consume news smartly and become engaged and informed participants in civic life. Main outputs of the project will be presented. These include a report on the findings of a survey on the news consumption, production and sharing behaviour of adults along with their needs for training on news literacy; a course outline for news literacy; a guideline for trainers for the implementation of the training course and andragogy (how to teach adults); and the structure of the multilingual MOOC. Creating awareness about the outputs of this project, within the ECIL community, is expected to provide valuable feedback from subject experts and wider use of the freely available content. There is no doubt that this will contribute to the development of news literacy and critical thinking skills of civil society as well as improvement of teaching approach of trainers who intend to teach news literacy to adults. A survey was conducted to collect data on news behaviour and news literacy training needs of adults from partner countries (Latvia, Serbia, Slovenia, and Turkey). Instructional design methodologies, content analysis, and literature review were used to develop the course content. It is expected that information presented in this poster will help to fill in a gap regarding the readily and freely available multilingual content for developing news literacy skills as well as how to teach news literacy to adults. Recommendations drawn towards the development of news literacy instruction and lessons learnt about how to teach it to adults are expected to be useful beyond the borders of the project partner countries.

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Keywords: *post-truth, news literacy, fake news, critical thinking, information behaviour, news behaviour*

WORKSHOPS

Hello? Hello? Are You Stuck in an Echo Chamber? Managing and Identifying Misinformation in the Era of Trump

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A New England Community College has joined the struggle against disinformation and foreign influence in American society and politics. This workshop is geared towards information professionals who want to build a classroom conversation around our current “alternative information ecosystem” (Coppins, 2020). Disinformation can fool anyone, and this multifaceted workshop focuses on misinformation, critical reading skills, self-radicalization, and identifying deepfakes, trolls, and bots. Contrary to popular belief, librarians are not unbiased: one of the main learning outcomes of the workshops are to have attendees identify their own political bias and curate their social media news feeds so as to avoid the dreaded echo chamber.

Objectives

This interactive, multi-media session will focus on the collaborative efforts of the librarians at this Community College and their peers to fight foreign and domestic disinformation campaigns. The objectives of the presentation involve hands-on activities focused on identifying fake news found in social media platforms as well as identifying newspaper bias. The presenters will discuss how they began to focus on the current United States administration’s use of information (or misinformation and distortion) to teach the concepts of information literacy as a strategy of resistance. Librarians will focus this speciality workshop on critical reading and recognizing deepfakes, misleading memes, and the identification of Russian (and other foreign) bots.

Participants will understand the types of misinformation and disinformation and will apply them to different examples in an active learning environment. They will identify emerging best practice within the news industry and social media for catching and combatting disinformation. Additionally, they will gain an understanding of what questions to ask when assessing the quality of evidence and sources. This workshop will help participants to improve their capacity to distinguish fact-checkable claims and will introduce the basic conceptualization of the cognitive biases that can lead to the unintended spread of misinformation.

Methodology

Using assessment techniques, librarians have confirmed that 88% of students polled get their main source of news from social media, specifically Facebook, Snapchat, and YouTube. This mirrors the results found in Head’s Project Information Literacy (2019). In order to highlight the frequency of “fake news” on these platforms, speciality workshops focus on helping students and faculty to identify misinformation. This includes in-depth background research on the factuality of social media memes, identifying Russian/foreign social media activity, and identifying deepfake videos.

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Keywords: *community college, fake news, deep fake, misinformation, disinformation, hate, echo chambers*

Teaching with Metaliteracy: Developing Informed, Reflective, and Participatory Citizens

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Topics to be covered

Metaliteracy prepares individuals to be informed consumers, ethical producers, and reflective participants in our collaborative and connected world. This comprehensive framework is ideal for examining the roles and responsibilities of learners at a time when too many people see the truth as malleable. In a post-truth world, the information we consume and create, as well as the varied sources of information we engage with, are judged by affinity to one's own views and beliefs. Social media has evolved into a problematic technology-based proprietary and partisan platform that promotes unethical practices, rather than the democratic ideals once envisioned.

The metaliteracy goals and learning objectives, revised in 2018 in response to these global challenges, provide guideposts and outcomes for teaching learners a metacognitive mindset in order to effectively engage in a post-truth world. Four domains—metacognitive, cognitive, affective, and behavioral—emphasize the overarching nature of this framework, which is easily adaptable to a wide range of pedagogical situations. Metaliterate learners envision themselves in active roles while gaining related characteristics such as informed, participatory, reflective, adaptable, and civic-minded. Today's learners are not just tomorrow's citizens—they are today's citizens, and it is imperative that educators work to stem the tide of negative impacts that result from extremist views and disregard for the truth. Metaliteracy extends information literacy in ways that align it with other core literacies such as reading and writing, while taking into account the multi-modality of digital learning.

In this interactive workshop, participants will explore metaliteracy, including the metaliterate learner model and characteristics, review the goals and learning objectives and their value, touch upon differences between metaliteracy and the ACRL (2015) and CILIP (2018) conceptions of information literacy, and consider both open metaliteracy resources and sample open educational practice models that they support. Participants will explore options that will meet the needs of their students, and start a plan for incorporating metaliteracy in their formal or informal teaching. They will be able to learn from one another and share ideas on an online, open platform for continuing consultation, reporting of results, and idea-sharing.

Outcomes

Participants will identify which open metaliteracy resource(s) best meets an identified need of importance to them, brainstorm what collaborations have the possibility of being fruitful for addressing this need, and start an implementation plan.

Target Audience

Teaching librarians, teaching faculty/staff, instructional designers.

Equipment Needed

Projection capability, hookup to our laptop, internet access, movable chairs or other set-up that facilitates group work (if possible).

Keywords: *metaliteracy, post-truth, digital citizenship, metacognition, OER*

Using Theories of Change to evaluate Information Literacy Initiatives

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Theories of Change (ToC) is a participative approach to evaluating the impact of projects, programmes and initiatives. Facilitators help stakeholders to construct ToC at the initial stages of the initiative, and support them in monitoring and in impact evaluation. ToC has been used to evaluate the success and impact of projects in a variety of sectors (often community and public sector initiatives; Mason & Barnes, 2007), and in educational development (Hart, Dierks-O'Brien & Powell, 2009) including Information Literacy initiatives (McKinney, 2014; McKinney, Jones & Turkington, 2011).

McKinney was part of the core team facilitating ToC evaluation of projects in the multi-million pound *Centre for Inquiry Based Learning in the Arts and Social Sciences* (CILASS) project (McKinney, 2014) and Webber was a stakeholder involved in two projects and a CILASS Academic Fellow. In the version of the ToC process used in CILASS projects, stakeholders are asked to identify the drivers for change in the current situation; the longer term impact they envisage the project will have; the intermediate outcomes that the project is expected to achieve; activities that would need to be undertaken to achieve outcomes and enabling factors and resources required to support the project (Hart, Dierks-O'Brien & Powell, 2009). Stakeholders collaboratively design a Theory of Change poster that defines key project indicators and develops a causal narrative between project activities and outcomes. A plan and evaluation framework is then developed from these indicators, and stakeholders design data collection instruments. Connell & Kubisch (1998) have identified that a good ToC should be *plausible*, *doable* and *testable*.

Objectives and outcomes for the Workshop

Objectives will be: (1) To explain ToC, its value and application (2) To enable participants to plan how they could use ToC to improve practice and impact.

By the end of the workshop participants will (1) understand what ToC involves; (2) have learnt the key steps in facilitating a ToC approach; and (3) will have identified how ToC could be used in their own workplace.

Workshop outline

There will be five portions: (1) A presentation describing ToC, identifying why it is useful, giving examples and outlining the steps in the ToC process. (2) Participants will, individually, identify an project, intervention, activity or class where ToC could be used. (3) Participants will form small groups, briefly explain each of their projects (etc.) and choose one per group to focus on. (4) The groups will use prompt questions to start drawing up a ToC evaluation plan for their chosen project. (5) Sharing of ideas, and questions.

The target audience is anyone who wishes to evaluate projects, programmes, curricula or other initiatives.

Equipment should include presentation facilities, flipchart paper and pens. We propose a workshop of 90 minutes.

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Keywords: *theories of change, impact, evaluation, research methods*

Troublesome Knowledge and the Spiritual Dimension in Information Literacy Liminal Spaces

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Situating information literacy as threshold concepts within the ACRL Framework (2016) invites closer exploration of the concept of liminal spaces - in-between places where often troublesome processes of learning and development take place - in information literacy learning. Coming to terms with concepts such as "Authority is Constructed and Contextual" often involves more than a purely intellectual process - requiring asking questions which could potentially contradict one's way of understanding the world, cultural or family norms or expectations, or ingrained hierarchies.

To more closely examine processes occurring in liminal spaces, we will look at how two structural paradigms which address intellectual and personal dimensions of development - William Perry's scheme (1970) and Women's Ways of Knowing (Belenky et al., 1997) inform Elizabeth Liebert's (2000) stages of spiritual development. "Spiritual" in this case is a concept which transcends religious and nonreligious labels to focus on a person's relationship to the larger forces or dimensions of life, and deeply impacts (consciously or unconsciously) the way a person makes meaning of the world. Using a spiritual development perspective focuses on the liminal and provides insight into struggles that may not be obvious in a setting where the focus is primarily on intellectual or epistemological knowledge. Liebert's paradigm focuses specifically on the transitions between stages and what sorts of events or catalysts can spur movement from a dogmatic perspective to greater openness while dealing with challenges to one's way of seeing the world.

Participants in this session will first be asked to engage individually with Liebert's spiritual development paradigm through guided reflection questions which ask them to consider if and how they see both themselves and students within the stages with special consideration to the liminal periods of transition. Participants will then be asked to form small groups and to discuss potential difficulties inherent to information literacy thresholds in light of Liebert's paradigm. Finally, participant groups will brainstorm connections between areas of potential difficulty in information literacy learning and possible areas for focus in their own teaching, research, or programmatic goals. Time will be given for plenary sharing from the groups.

Proposed Time

90 Minutes

Target Audience

Professors or librarians who teach information literacy-related content to students of any level, or are tasked with incorporating information literacy into pedagogical or curricular goals.

Equipment Needed

projector and screen, round tables, pens

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Keywords: *information literacy, threshold concepts, liminal space, liminality, spiritual development, spirituality, student learning*

Eating the Elephant One Bite at a Time: Fitting Research into Your Workday at a Practicing Librarian

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Library practitioners often struggle to find the time and focus necessary to undertake research projects and complete them in a timely manner. Even those who are on the tenure-track and have time allocated for research often are not trained in research and so lack familiarity with strategies and techniques to structure and manage research activities (e.g., scoping a research question/topic, identifying appropriate methods, human subjects ethics review/IRB, data analysis, contextualizing findings, manuscript development, submission and review processes, and publication tasks). All of this may lead to frustration, wasted effort, false starts, and even imposter syndrome. In some cases, the consequences are severe and result in someone failing to establish the scholarly record that is required to achieve tenure.

This workshop will draw on the literatures of project management, time management, task analysis, and the psychology of habits in order to enable practitioners to develop skills and strategies for fitting research into their professional workflow. The presenter is a successful researcher and has attained promotion to full professor as an academic librarian. In her role as mentor to library school students, she has coached multiple students in developing and completing independent research projects within the timeframe of the academic semester (four months).

Workshop Outcomes

Participants in the workshop will:

- Identify the phases and the component activities for a current or potential research project.
- Develop a timeline for the research project and a “time budget” for each phase.
- Select specific time and project management strategies that reflect their personal work style preferences.
- Create an action plan that draws upon the psychology of habits in order to prioritize research and balance that priority with other demands.

Workshop Activities

The workshop is designed to be interactive and pragmatic. Participants will leave the workshop with a plan for action developed through the following activities:

- Discussion of key workshop concepts: project management, time management, task analysis, and the psychology of habits.
- Self-reflection on personal work style preferences and existing tendencies.
- Developing a “story of my research project” for small group presentation/peer feedback.
- Role-play activity on preserving one’s allocated time for research.

Target Audience

The workshop is for any practicing librarian who is also a researcher (or who would like to be) and wants to improve the efficiency and effectiveness of their research work practices.

Equipment and Supplies Needed

Needed for the workshop are a computer/projector and two pieces of flip chart paper (or paper of similar size) for each participant. The presenter will provide handouts, post-it notes, and markers. Each participant will also receive an elephant keyring charm to serve as a reminder of the theme of the workshop.

Keywords: *time management, project management, practitioner-researchers*

Copyright Literacy Games: Embracing the Opportunities of European Copyright Reform Through Play

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Copyright law is fundamentally important to librarianship and education as it regulates the ways creative, cultural and scientific works are incentivised and accessed. The EU Digital Single Market Directive approved in 2019 includes a number of mandatory exceptions to copyright law covering education, research and cultural heritage. EU Member States must transpose the Directive into local law by 2021, and once the law has changed, information professionals in educational and research institutions will need to support those studying and working with them to understand how to take advantage of the law.

Similarly, Plan S, (cOAlition S, 2021) launched in 2018 states that by 2021 scientific publications resulting from research funded by public grants must be published open access. It is delivering a significant change to the scholarly publishing landscape, mandating a shift to open access publishing that will impact those undertaking publicly funded research. Understanding copyright law and associated licences is vital for researchers and those supporting them within research institutions as the policy environment changes.

IFLA (2018) recognises the important role that librarians play both as advocates for copyright reform but also in copyright education and copyright literacy (Secker et al., 2019). Consequently, this workshop is an opportunity to share good practice and it will showcase two openly licensed games-based resources that address the challenges and opportunities that European and international copyright law and publishing reforms present:

Copyright the Card Game (Morrison & Secker, 2015) was created in the UK in 2015 to teach librarians, teachers, researchers and students how to interpret updated copyright exceptions in real life scenarios. The game has since been converted to a number of different countries' jurisdictions including the US, Canada, New Zealand and Australia.

The Publishing Trap (Morrison & Secker, 2017) is a board game created in 2017 which highlights the impacts of licensing decisions on researchers working within the current scholarly communications ecosystem. It is a role play game aimed at PhD students and early career researchers that follows the careers of four academics as they try to gain impact and create new knowledge. The game has been played in many countries and translated into German and Lithuanian.

In this workshop the presenters will allow participants to play a shortened version of the latest versions of both games, explaining how they work and how they have been received. They will also invite participants to adapt the games for other languages and jurisdictions.

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Keywords: *copyright reform, Europe, digital single market, games-based learning*

PANELS

Theoretical Perspectives for Collaboration with Disciplinary Faculty

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The theory underpinning efforts to embed Information Literacy (IL) into curricula influences many aspects of one's project, ranging from influencing how one collaborates to measuring success. This panel provides examples of collaborative endeavours with disciplinary faculty from three universities in the United States—emphasizing the varied theoretical foundations of each project. The panelist from Purdue University will describe librarians using an informed learning approach (Bruce, 2008) to facilitate a large-scale faculty development program to integrate information literacy into coursework (Maybee, 2018). One panelist from The Ohio State University will discuss a workshop series and course transformation grant program that uses Bensimon's (2005) equity frame for rethinking instructors' expectations for students' information literacy and research skills while providing instructors with practical strategies to make expectations more transparent while maintaining rigor. The panelist from Utah State University will share an approach to faculty development centered on peer feedback and a librarian-facilitated community of practice (Lave & Wenger, 1991), namely interdisciplinary assignment design workshops that leverage principles from action learning (McGill & Beaty, 2001) in a model developed by the National Institute for Learning Outcomes Assessment (NILOA, 2018). Another panelist from The Ohio State University will address faculty development, and the role of Centers for Teaching and Learning (CTL), in advancing information literacy at the campus level based on the research of Roxå and Martenson (2009).

Panelists will reflect on various aspects of collaborating with disciplinary faculty including: 1. theory, such as organizational theory, IL theory, and faculty development theory; 2. different research methods including both qualitative, (e.g., phenomenography, and quantitative, surveys); and 3. different modalities, including assignment design, faculty development, and mentorship. The audience will be able to ask the panel questions and share perspectives from their institutions.

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Keywords: *information literacy theory, embedding information literacy*

Information-as-Weapon: A Wrinkle in Information Literacy Research and Practice

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Information and media literacy researchers and practitioners have been exploring and debating the nature of “information” for decades. Information has been characterized as a “thing,” as a cognitive process, as “knowledge,” as a commodity, and numerous other conceptualizations (e.g., Buckland, 1991; Bates, 2005). Recent controversies in the social media info-sphere have suggested a new wrinkle in the discussion—the emergence of “information-as-weapon” via social media. Observers of social media continue to see numerous examples of this information-as-weapon phenomenon (Saunders, 2013). Some examples from the United States include politicians calling journalists purveyors of fake news on Twitter, FaceBook posts that intentionally misrepresent athletes’ decision to kneel in protest of police brutality and inequity, and online threats directed at women who have publicly alleged sexual harassment in the workplace. The general consensus is that many of these attacks are intentionally misleading. These and other examples of the harmful use of social media (and outright propaganda) occur in similar fashion around the world and are source of intentional divisiveness. Our societies are increasingly subject to an info-sphere of unease and distrust, one where individuals choose their own truths (Szafranski, 1995, Spring). In keeping with the conference theme of “Information Literacy in a Post-Truth Era,” this panel will discuss the challenges for Library and Information Science professionals created by the current information environment. The five overarching objectives of this panel are to: present a contemporary view of weaponized information in social media environments; argue that the weaponization of information is a social justice issue; explore cognitive factors that make people susceptible to weaponized information; outline some preliminary steps and theoretical frameworks that can inform the work of information literacy researchers and practitioners who are tasked with presenting to their constituencies more discerning approaches for everyday information use; and discuss how and why challenges created by the current information environment should be viewed as opportunities for improving LIS education as well as challenging perceptions of the profession. The session will follow the Ignite format for concise, high-impact meetings; presenters will provide an overview of the discussion themes in the first 15 minutes, in other words, 5 minutes per panelist. Afterward, there will be a 30-minute brainstorming session where audience members will pose questions or, conversely, share ideas for further exploration. The goal is to encourage reciprocity and reflection.

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Keywords: *social media, propaganda, information literacy, social justice*

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