

# STRATEGIC POSITIONING OF MEDIA AND INFORMATION LITERACY: THE ROLE OF SCIENTIFIC RESEARCH PLATFORMS

## STRATEŠKO POZICIONIRANJE MEDIJSKE I INFORMACIJSKE PISMENOSTI: ULOGA ZNANSTVENO- ISTRAŽIVAČKIH PLATFORMI

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### *Abstract*

**Purpose.** The paper aims to point out the role of scientific research platforms as the main drivers of the integration of the concept of media and information literacy into public policies, that is, in the long term, into formal education.

**Approach/methodology/design.** In order to successfully analyse the obstacles to establishing a clear correlation between the lack of systematic and long-term engage-

ment of scientific research bases and the integration of media and information literacy into public policies, this paper has explored, analysed and conceptualized the approach and results of the Institute for Social Science Research, Faculty of Political Sciences, University of Sarajevo in research, development, advocacy and integration of media and information literacy into the education system in Bosnia and Herzegovina as a case study.

**Results.** The research has attempted to illustrate how scientific research platforms can be used to influence (and create an optimal model for public intervention) public policies, rather than just serve as platforms for academic advancement and as project implementation tools.

**Social value.** The scientific research platform on media and information literacy at the University of Sarajevo can be understood as an applied practice in an open scientific environment, and developed on the principles of the common good.

**Keywords:** library; media and information literacy; scientific research platforms

### ***Sažetak:***

**Cilj.** Cilj je ovoga rada ukazati na ulogu znanstveno-istraživačkih platformi kao glavnih pokretača integracije koncepta medijske i informacijske pismenosti u javnu politiku, tj. dugoročno, u formalno obrazovanje.

**Metodologija.** Kako bi se uspješno analizirale prepreke za uspostavu jasne korelacije između nedostatka sustavnog i dugoročnog angažiranja znanstveno-istraživačkih baza i integracije medijske i informacijske pismenosti u javne politike, u ovom je radu istražen, analiziran i konceptualiziran pristup i rezultati Instituta za društvena istraživanja Fakulteta političkih nauka Univerziteta u Sarajevu u istraživanju, razvoju, zagaravanju i integraciji medijske i informacijske pismenosti u obrazovni sustav u BiH kao studija slučaja.

**Rezultati.** Istraživanjem se nastojalo ilustrirati kako se znanstveno-istraživačke platforme mogu koristiti za utjecaj (i kreiranje optimalnog modela za javnu intervenciju) na javnu politiku, a ne samo kao platforme za akademski napredak i kao alati za implementaciju projekata.

**Društveni utjecaj.** Znanstveno-istraživačka platforma o medijskoj i informacijskoj pismenosti na Univerzitetu u Sarajevu može se shvatiti kao primijenjena praksa u otvorenom znanstvenom okruženju koja se razvija na principima zajedničkih dobara.

**Ključne riječi:** knjižnica; medijska i informacijska pismenost; znanstvene istraživačke platforme

## 1. Introduction

This paper will explore, analyse, and conceptualize the approach and results of the Institute for Social Science Research of Faculty of Political Science of University of Sarajevo in research, development, advocacy, and integration of media and information literacy into the education system in Bosnia and Herzegovina as a case study to illustrate how scientific research platforms can be used to influence (and create optimal model for public intervention) public policy, rather than just serve as platforms for the academic advancements and as project implementation tools.

The case study analysis demonstrates that university-based science platforms can become a common good if their main purpose of facilitation of science and the generation of knowledge (through knowledge diversification, knowledge sharing and deepening interdependence) are infused with active advocacy and lobbying for practical applications of the scientific innovations developed by the said scientific research platforms.

Following the definition of commons (Hess, 2011: 4) as “a resource shared by a group of people” and extending the commons debate to knowledge (approaching knowledge as a complex ecosystem that operates as a common), the creation of scientific research platform with focus on media and information literacy is developed and conceptualised. According to Frischmann (2013) commons “reinforce the need of sharing within a community in a way that allows non-discriminatory access, while ensuring adequate controls to avoid congestion or depletion when the capacity is limited” (cited in Ferrari, Scardaci and Andreozzi, 2018: 47). According to Ferrari, Scardaci, and Andreozzi (ibid.) the commons concept is embedded in Open Science which stresses cooperation to reduce barriers to collaboration, knowledge transfer and sharing of results, moreover,

“applying this principle to the Open Science process is expected to improve the stewardship from the funding agencies, in collaboration with the stakeholders, through mechanisms such as public consultations. This will increase the perception of shared ownership of the infrastructures. It will also create clear and non-discriminatory access rules together with the sense of shared ownership, which stimulates a higher level of participation, cooperation and social reciprocity” (ibid: 47).

Media and information literacy scientific research platform at University of Sarajevo has grown beyond stimulative environment for creation, preparation, and implementation of science research projects, into discussion hub for exchange of ideas, experiences, peer-learning, and information and knowledge commons into praxis.<sup>1</sup>

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<sup>1</sup> Praxis: action, practice. such as: a : exercise or practice of an art, science, or skill. b : customary practice or conduct. (<https://www.merriam-webster.com/dictionary/praxis>)

Fostering the idea of developing information and learning commons<sup>2</sup> platform the main argument of this paper is that a scientist/researcher, as central point of each scientific research platform, must engage in praxis of critical emancipatory practices in order to improve various social and education systematic faults. In other words, by fostering pedagogical praxis (as a form of experience-based and professional learning) scientific research platforms create spaces, not just for verifying the theoretical knowledge, methods, and procedures but confirming that “all education is political; teaching is never a neutral act” (Freire, 1970).

Media and information literacy is a process based on the principles of lifelong learning; an umbrella competence that is assumed in the society that has experienced its digital transformation and expects a citizen to be sufficiently informed and educated to be an equal participant in democratic discourse, as a proactive independent subject, as a constructive and responsible decision maker, and a contributor to the knowledge society (Vajzović, et al., 2021). Motivation for establishing the platform fermented from the need of Bosnian and Herzegovinian society, since general level of media and information literacy is not satisfactory (Vajzović, 2020; Lessenski, 2021).

The need to democratize society and develop the new generation skills required by digital age assumes adequate integration of media and information literacy into formal and non-formal education. It is important because children and young people in Bosnia and Herzegovina have very limited or no ability to acquire the skills and competencies needed to live successfully in the digital age and challenging democratic environment (Vajzović et al., 2019; Hasanagić, Papović i Kovačević, 2020). Furthermore, the chaotic landscape of digital media offers opportunities for further development of information disorder (Cvjetičanin et al., 2019; Vajzović et al. 2020; Karadžuz et al., 2022), as a symptom of social and political disorder, rather than the cause (Greene et al., 2021).

In the efforts to find stronghold point for system disruption and detect existing usable elements and search for these exploits in the system for its overhaul – the libraries were “uncovered” – as (historically) very potent vessel. Yet, libraries across the country and in schools are largely unused and although they have the potential to play a significant role in the lifelong learning process, they are not recognized as institutional support for achieving the goals of the information society.

With its scientific and research activities in Bosnia and Herzegovina, the Faculty of Political Science of the University of Sarajevo advocates a strategic approach in the field of media and information literacy. Such an approach should result in the integration of media and information literacy into the formal and non-formal education system, and involve the media, teachers and librarians in the process

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<sup>2</sup> One of the key differences between information commons and learning commons is that learning commons views the user as someone who actively contributes with their knowledge and information, not just as a mere consumer of information (Turner et al., 2013 in Čukić, 2021:17).

of advocating and strengthening media and information literacy, with particular emphasis on promoting shift in educational paradigm, empower digital learning and critical thinking.

The essence of the effort of the Institute for integration of media and information literacy into the education system in Bosnia and Herzegovina is such that the library is conceptualized as an information hub, which can be a strategic resource through which the process of information and media literacy of users (students, teachers, parents, citizens) is conducted.

As schools do not have independent media and information literacy programs or standards that would contribute to its promotion, updating the role and functions of librarians and libraries inspired by UNESCO's media and information literacy approach (Wilson et al., 2011; Grizzle et al., 2013) can be a strategic component of developing professional competencies, especially given the fact that librarianship is directly related to learning support processes. The modern school library thus appears as a key component of the functioning of the information society (multimedia school centre, information centre mediated using modern technology, information specialist, etc.), and school libraries should be recognized as existing education systems' resources whose updating would ensure continuous support in the 21st century.

Since the placing of media and information literacy as a key competence for each society (ibid.) by the United Nations Educational, Scientific and Cultural Organization (UNESCO), strategic positioning of media and information literacy in public policies as well as and strategic thinking about the media and information literacy in Bosnia and Herzegovina has not been adequately represented nor positioned (Vajzović et al., 2020). The only measurable progress related to strategic thinking, is creation of the "Declaration on the Importance of Media and Information Literacy in Bosnia and Herzegovina" in 2019.<sup>3</sup> Regarding the public policies, the only measurable progress is the development of the *Strategy for media and information literacy in area of education of the Canton Sarajevo* (Strategija za medijsku i informacijsku pismenost u oblasti obrazovanja u Kantonu Sarajevo) (Kanton Sarajevo, 2022) which is submitted to the Canton Sarajevo government for adoption. This is direct result of praxis developed in Media and information literacy Scientific research platform (MIL SRP) at the University of Sarajevo.

This progress, regardless how limited it is, would not be possible without the support provided by the scientific research platform developed by the Institute, as a common good. This paper will use the Institute's commitment in media and information literacy agenda in Bosnia and Herzegovina to illustrate the importance of the university-based scientific research for public policies and more specifically, the paper will elaborate what is necessary to ensure that the Institute, and sim-

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<sup>3</sup> For more information on Declaration (Deklaracija) please visit: <https://fpn.unsa.ba/b/wp-content/uploads/2020/12/Deklaracija-MIP-BIH-2019.pdf>

ilar institutions, becomes a university-based scientific research platform. Through the analysis of the process of development of the *Strategy*, the paper will identify what were the enabling factors for the successful public policy intervention in area of media and information literacy in education as well as what are the main impediments for the structured and meaningful participation of similar university-based scientific research platforms. At the end it will offer conclusions and recommendations for the advancement of the roles of university-based research in public policy making.

Another unlooked-for, yet very important indicator, was forced digitalisation caused by COVID-19 pandemic and distributed workforce paradigm on new-normal collaboration in virtual space and online-platforms in support of teamwork in science research platform. Now, ideas exchange and collaboration were possible regardless of physical location which gave added-value and enhanced results.

## 2. Scientific research platforms: Towards Commoning

In a modern (digital) society, university based academic research is a pivotal constituent of main breakthrough (disruptive) innovations. Academic research provides frameworks for the advancements in fields of medicine, economy, nuclear physics and alike. Undoubtedly, scientific research platforms are deemed to be exceptionally effective tools for breakthroughs that require interdisciplinary, or even anti-disciplinary research cooperation. Usually, the establishment of research platforms is initiated by academics and research groups of various disciplines and faculties. Usually, under one umbrella research topic, applications from all subject areas are taken into consideration, hence, research platforms address academic questions that can only be studied from an interdisciplinary perspective. Thus, the main goal is the promotion of innovative, interdisciplinary research projects.<sup>4</sup>

The scientific research platform is a meeting-point of ideas, initiatives, research, development, academic excellence, and is an important support for concept development, subject construction, human resources development, and science and technological achievements. It can be a part of publishing group, software/online platform (app-)assisted for formal or informal groups, within R&D of companies, civil society networks, or part of academic institution(s). Thus, within academic environment, the underlying goal is the promotion of especially innovative, interdisciplinary research projects that are typically geared towards advancement of academic excellence rather than direct interventions in public policies such as laws, strategies, action plans, etc. We believe that this academic-centred practice should be transformed into academic-centred praxis (the process by which a theory, lesson, or skill is enacted, embodied, or realized).

At the centre of each scientific research platform is the scientist, as the main asset of science. Hence, the benefits of the scientific research platforms should

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<sup>4</sup> Example: <https://sowi.univie.ac.at/en/research/research-platforms/>

tune to the needs of every participating scientist, while maintaining focus on main objectives and goals of the platform.

Very beneficial are approaches and concepts of open science (movement) in making scientific research<sup>5</sup> and its dissemination accessible to all levels of society (amateur or professional, respectively). As Wikipedia is describing it:

“Open science is transparent and accessible knowledge that is shared and developed through collaborative networks. It encompasses practices such as publishing open research, campaigning for open access, encouraging scientists to practice open-notebook science, broader dissemination and engagement in science and generally making it easier to publish, access and communicate scientific knowledge.”

According to Fecher and Friesike (2014) Open Science or Science 2.0. strives for “opening of knowledge creation and dissemination to a multitude of stakeholders (including society in general) supporting multiple perspectives, from infrastructure-oriented views seeking to increase efficiency through better tools and services, to public-oriented views trying to ensure citizens have access to scientific knowledge” (cited in Ferrari, Scardaci and Andreozzi, 2018: 47).

We are aware that Open Science

“brings about socio-cultural and technological change, based on openness and connectivity, on how research is designed, performed, captured, and assessed. Open data tools, open access platforms, open peer review methods, or public engagement activities are irreversible trends, that are impacting all scientific actors and have the potential to accelerate the research cycle” (Vicente-Saez and Martinez-Fuentes, 2018).

Benefits of open research (as supported by the Springer Nature Group<sup>6</sup>) are explained in terms of increasing citation and usage indicating that open access articles are viewed and cited more often than articles behind a paywall. Accordingly, such platforms increase interdisciplinary conversations among scientists because open access journals that cross multiple disciplines help researchers connect more easily and providing greater visibility of their research. Another clear benefit underlined by the Springer Nature Group is that platforms aid wider collaboration since open access publications and data enable researchers to carry out collaborative research

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<sup>5</sup> Including publications, data, physical samples, and software.

<sup>6</sup> Springer Nature Group state that they “advances discovery by publishing trusted research, supporting the development of new ideas and championing open science. We are committed to playing our part in accelerating solutions to address the world’s urgent challenges.” For more please see: <https://www.springernature.com/gp>

on a worldwide scale. Furthermore, platforms ensure faster impact with permissive licenses that enable researchers to build on existing research quickly.

Derived from principles of Open Science and understanding need of holistic approach, University of Sarajevo (at the Institute for Social Science Research of Faculty of Political Sciences) have organically developed a scientific research platform in media and information literacy, in many respects as (a)typical platform of this kind.

It gathers a multidisciplinary team of researchers, institutions, stakeholders. Yet, creative commons ethics, open science principles and drive to organically connect academic excellence with public policy interventions are driving principles behind this approach. The Institute is approaching research, development, advocacy, and integration of media and information literacy as a complex ecosystem that operates as a common. With this approach all available and shared resources are subject to scientific, social, and political debates and dilemmas. Furthermore, it presumes creation of a commune of users and its contribution to platform through praxis and contribution to scientific research platform in media and information literacy (cf. Vajzović, 2020; Vajzović et al., 2021). A community of scientists (from various universities and disciplines), a community of researchers, a community of school librarians, and a community of schoolteachers are created, supported and used, as learning commons through workshops and trainings (in person, hybrid and online versions), participation in research, contribution and collaboration (in person and via Open Education Resources platforms).

The commons allegory is applied to scientific and social practice around knowledge and with development of a unique “Hybrid model of multistage integration of media and information literacy”, as an optimal model of public policy intervention. The Hybrid model is relying on principles of nature of knowledge and its complex and multi-layered qualities of non-rivalry and non-excludability. Unlike natural commons – which are both rival and excludable (only one person can use any one item or portion at a time and in so doing they use it up, it is consumed) and characterised by scarcity (they can be replenished but there are limits to this, such that consumption/destruction may overtake production/creation) – knowledge commons are characterised by abundance (they are non-rival and non-excludable and thus, in principle, not scarce, so not impelling competition and compelling governance). This abundance of knowledge commons has been celebrated through alternative models of knowledge production.

“The common is not to be construed, therefore, as a particular kind of thing, asset or even social process, but as an unstable and malleable social relation between a particular self-defined social group and those aspects of its actually existing or yet-to-be-created social and/or physical environment deemed crucial to its life and livelihood. There is, in effect, a social practice of commoning” (Harvey, 2019).

The scientific research platform on media and information literacy at the University of Sarajevo can be understood as the praxis grounded in open science environment and nourishing principles of commoning. In this way we are getting closer to the UNESCO (2022) *Recommendation on Open Science* standing for an umbrella concept combining various movements and practices aiming to: a.) make scientific knowledge, methods, data and evidence freely available and accessible to everyone; b.) increase scientific collaboration and the sharing of information for the benefit of both science and society; and c.) open the process of scientific knowledge creation and circulation to societal actors situated beyond the institutionalized scientific community (Persic et al, 2021: 16).

### 3. Strategy development for Media and Information Literacy

The Institute used its experience with its scientific research platform for development of media and information literacy to implant the similar research platform in every education institution in the Canton Sarajevo. The process of scientific research for development of media and information literacy, policy development and strategic framework was started by the University of Sarajevo, in cooperation with other public universities in Bosnia and Herzegovina, public sector and civil society partners and with the support of UNESCO, European Union (EU) and the Organization for Security and Cooperation in Europe (OSCE), through extensive research processes and consultations on media and information literacy strategies and policies in Bosnia and Herzegovina from 2018 onwards.

The need to start the process of drafting a strategic framework at all levels of government has been identified quite early on since the participants recognized media and information literacy as a linchpin for change in education in the context of digital transformation of society, and for long-term democratization of society and a prerequisite for sustainable human development.

Before this process begun, there were no measurable, significant, sustainable and long-term feasible initiatives in media and information literacy integration in education systems (Vajzović et al., 2020; Vajzović, 2020; Hodžić et al., 2019). Libraries remained untapped school resource for support of the digital transformation of learning, and librarians were still not recognized as information professionals. Until the creation of the strategic framework embodied in the *Strategy* the majority of activities revolved around a number of *ad-hoc* workshops in the education system devoid of long-term strategic approach, and in many instances even counterproductive since they fruitlessly burdened systems and tired stakeholders. It became evident that until public institutions are not strategically determined to recognize the media and information literacy as a key competence little progress will be made.

The Institute formed a (unofficial) scientific research platform in order to mobilize the interest of the public institutions. Aided by the platform the Institute ini-

tiated extensive advocacy and an awareness rising campaign that resulted in over 1400 direct individual participants in various activities in the 5-year period. In this it is officially supported by the State Commission of Bosnia and Herzegovina for Cooperation with UNESCO. The effort resulted in that all relevant stakeholders recognized that the Institute's holistic and integrative process is ensuring preconditions for preparing a strategic framework for improving media and information literacy in Bosnia and Herzegovina (Vlada Kantona Sarajevo, 2021).

Once the research, development and theory provided clear vision of the future needed steps, the Institute reached-out to the Ministry of Education of the Canton Sarajevo and offered partnership in developing and drafting *The Strategy of media and information literacy development in education area in Canton Sarajevo*. By the Decree<sup>7</sup> of the Minister of Education (Canton Sarajevo) issued on 6 July 2021 the working group was constituted and the work on this milestone strategic document started.

The Institute's scientific research platform generated a volume of materials as the basis for the drafting of the *Strategy: The Declaration on the Importance of Media and Information Literacy in Bosnia and Herzegovina* (Institut za društvena istraživanja, 2019), *Media and Information Literacy in the Western Balkans: Unrealized Emancipatory Potential* (Petković, at al., 2019), *The Sarajevo Canton Development Strategy 2021–2027 – Strategic Platform* (Sarajevo Canton, 2020), *The Review Study on Media and Information Literacy Policies and Strategies in Bosnia and Herzegovina – Ver. 2.0* (Institut za društvena istraživanja, 2020), *The Position Study on Media and Information Literacy Policies and Strategies in Bosnia and Herzegovina* (Institut za društvena istraživanja, 2020a), *The Position Study – The Role of Civil Society Organizations in Implementing Media and Information Literacy Strategies and Policies in Bosnia and Herzegovina* (Institut za društvena istraživanja, 2020b), *The Position Study – Media and Information Literacy in Education in Bosnia and Herzegovina: A Hybrid Model of Multicomponent Integration* (Institut za društvena istraživanja, 2021), *The Media and Information Literacy: Research and Development* (Vajzović at al., 2020), *The Media and Information Literacy: Learning Design for the Digital Age* (Vajzović at al., 2021), and *The Regional Development Review and Integration of Media and Information Literacy* (Vajzović at al., 2021a), *The Growing Up Learning: Society, Culture, Religion in the Digital Age* (Vajzović i Hibert, 2021).

The final output was the *Strategy*<sup>8</sup> that addresses a key intervention in public policy in the field of media and information in order to ensure that the society

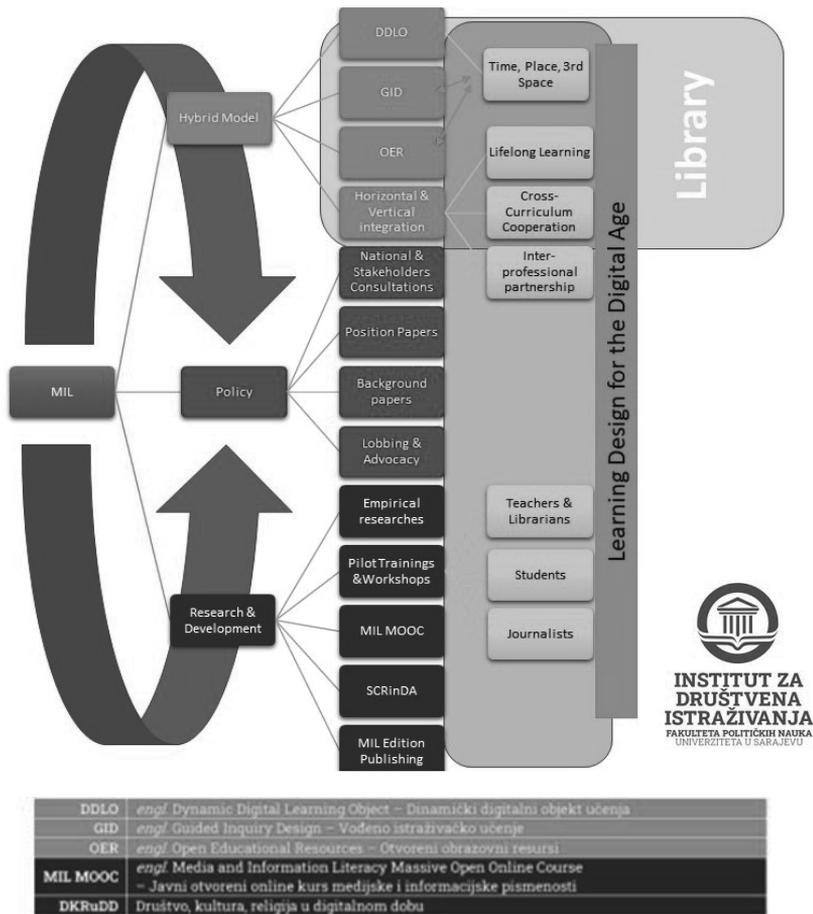
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<sup>7</sup> Ministry of Science, Higher Education and Youth of Sarajevo Canton, on July 6, 2021. Decision No. 27-02-04-26996 / 21 issued a Decision appointing a working group for the purposes of drafting the *Strategy for the Development of Media and Information Literacy in the Field of Education in the Sarajevo Canton*.

<sup>8</sup> The *Strategy for the Development of Media and Information Literacy in the Field of Education in the Sarajevo Canton* was submitted to Government of Canton Sarajevo on 08.12.2021. and awaiting formal adoption in moment this paper is submitted.

and each individual fulfil their role in the digital world. The strategy is designed to reach all segments of the population and reduce the “digital divide”, and the stratification of society.

The core of the *Strategy* is the innovation developed by the scientific research platform, the Hybrid model of multicomponent integration of media and information literacy (Illustration 1) which is a research platform itself. The model is developed on the basis of extensive analyses and assessments of complex process using a holistic multidisciplinary approach, this strategy relies on UNESCO principles and models, and is adapted and upgraded for the needs of Bosnia and Herzegovina and the Canton Sarajevo.



*Illustration 1.* Hybrid model of multicomponent integration of media and information literacy (Vajzović, 2020, 14).

Scientific innovation, embodied in a hybrid model of multicomponent integration, ensures integration of media and information literacy in the field of education, which includes horizontal and vertical integration. It is a hybrid because it draws on previous experiences of other modalities, the UNESCO's media and information literacy concept and the specifics of the state of education in Bosnia and Herzegovina and the Sarajevo Canton. Vertical integration ensures the development of science, research and lifelong learning of future teachers and librarians; through science and research, it provides support to decision makers, provides professional development of teachers, librarians and other actors at all levels of education systems. Horizontal integration ensures the cross-curricular cooperation between teachers and librarians within curricula and learning outcomes; the focus is on the principles and contents for the development of media and information literacy, as an umbrella competence, within the educational system and society.

The hybrid model recognizes dynamic digital learning objects as an unavoidable and necessary step in the context of the digital transformation of education. In the broadest sense, the Model promotes digital dynamic educational content (digital resources used in learning and teaching, and regularly updated and supplemented). In a narrower sense, these are digital content created for users / students (at all levels of education) of specific educational institutions (at all levels of education) for the purpose of their use, but also sharing (possibility of duplicating and redistributing materials in any medium or format), processing (remixing, modifying and reworking content) in the learning process. In a sense, Hybrid model offers itself as a basis for the future scientific research platforms.

The hybrid model recognizes that the most common digital teaching contents are, more specifically, dynamic digital learning objects, e-books, online courses, presentations, tests, animations, generally multimedia sources and contents. This model envisages that the basis for the development of digital teaching content is the planning of instructional design as a process in which learning theories and pedagogical theories are applied (as well as various principles, techniques and teaching methods) in order to effectively plan and develop learning materials and shape the process of teaching and learning in specific subjects and lessons (Janđrić, 2016). This principle, as the foundation of successful learning, ultimately supports the establishment of a dynamic educational environment consisting of learning management systems, content management systems, and virtual learning environment. It also integrates the principle of open classroom.

The next element of the Hybrid model is the concept of Open Access to educational content. An integral part of the Hybrid model is Open Access, which is seen as free, uninterrupted and uninterrupted online access to digital (scientific) information that allows reading, storing, distributing, searching, retrieving, indexing and / or other lawful use. Open Educational Resources (OER) is a term that

refers to “Open Educational Resources (OER) are learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others” (UNESCO, 2022). The potential of MOOCs and OER to address transformative approaches to education and training can be broadly grouped as follows: 1. Students in higher education (including those in courses or in research in “adjacent” fields). 2. Professional development and knowledge transfer (for existing data scientists, and other professionals. 3. School-based education (especially high school, where links to the curriculum are essential. 4. Awareness-raising and orientation (for newcomers to the field, including decision and policy makers, professional communicators, and educators, and the wider public) (Kapur et al., 2018: 28). It is apparent the OER movement, along with MOOCs enable education transition towards digital networked learning which is in accordance with expectations and needs of a new generation of students, researchers, and teachers.

The idea of Open Access (digital) educational content that contributes to improving the quality of the educational process and enables access to education for all under equal conditions and Open Access that accelerates the availability and flow of knowledge and information to all without restrictions globally, and allows visibility, evaluation and improvement of research processes and results, are based on the democratization principles of education. Therefore, the construction or establishment of digital repositories (storage of digital, electronic material; collection of digital educational materials that allows systematic management of the processes of publishing, access and storage of teaching / educational content) is a fundamental prerequisite for involvement in collaborative knowledge production.

The next element of the Hybrid model is Guided Inquiry Design authored by Kuhlthau, Maniotes and Caspari<sup>9</sup> concept developed as a methodological solution to the learning challenge in a society that has undergone digital transformation. The Hybrid model determines the media and information literacy as a form of social practice, not an autonomous and isolated set of competencies, and the establishment of a collaborative community of students, teachers and librarians is designed using the Guided Inquiry Design concept. This solution is based on a team approach to the research process that encourages and develops pedagogical practices of learning autonomy, but also supports students in using a wide range of (multimedia and other) information resources, their in-depth understanding, encouraging personal perspectives. For the realization of this form of reconceptualization of teaching (media and information) literacy, the interprofessional

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<sup>9</sup> Together – Carol Kuhlthau, Leslie Maniotes, and Ann Caspari are the authors of the Guided Inquiry Series; including *Guided Inquiry: Learning in the 21st Century*; *Guided Inquiry Design®: A Framework for Inquiry in Your School*, *Guided Inquiry Design® in Action: Elementary*; *Guided Inquiry Design® in Action: Middle School* and *Guided Inquiry Design® in Action: High School*.

cooperation of librarians and teachers, as well as institutional partnership is a necessary form of support for the processes of development and stimulation of new educational policies of professional development. Ultimately, the Hybrid model of multicomponent integration is an approach to the development of professional competencies in the field of media and information literacy in education systems that is sustainable, applicable and adaptable (Vajzović i Hibert, 2021). The Guided research learning stems from the paradigm of learner-centred education and is just one in a series of methodological approaches that belong to this very important, transformative and emancipatory paradigm. As such, it puts the child / student in the centre.

In essence, the Hybrid model as a research platform will be offered to all participants in formal and non-formal education in the Canton Sarajevo and wider. A research platform (the Institute's scientific research platform on media and information literacy) ensured that another research platform (the Hybrid model) becomes a public policy with the adoption of the Strategy.

#### **4. University-based scientific research platforms**

The role of public research institutes and their scientific research platforms in the Western Balkan countries is instrumental to development of these societies. The research infrastructures play an increasing role in the advancement of knowledge and technology. Considering the Institute's experience with scientific research platform for development of media and information literacy and integrating the concept in public policy there are several elements that have to be considered in the future. Gallacher (2016) in his article "What's the good of a science platform" offers a suitable framework for the assessment of the challenges that the Institute's and similar scientific research platforms encounter in their work.

Regardless of the variations and specifics of each scientific research platform operating systems "[t]he efficiency of a system can only be judged in the context of a common purpose" (ibid: 1). In addition to the context of the common purpose, the cost of knowledge generation must be considered as well as issues related to the needs of the society. Gallacher (2016) puts in forefront the underlying problem that the Institute's platform is encountering and which relates to the order that is emerging from the dynamic social environment in which platform operates and the resulting value exchange perspective. This order was framed by Gallacher as:

1. Value exchange; individual scientists and research organizations collaborate to benefit from value exchange opportunities, where value exchange is defined as giving recognition for the benefit realized.

2. Emerging order; order emerges as individuals and research organizations seek to reduce the cost of obtaining benefit, i.e. the transaction cost.
3. Institutions; defined as systems of rules and sanctions for the exchange of value, emerge to reduce transaction costs by defining property rights, i.e. the right to benefit from a resource by use, income or disposal.
4. Property rights; Unclear property rights constrain value exchange opportunities, hindering scientific activity (ibid.: 1–2).

*Value exchange* – Regarding the value exchange, the Institute’s scientific research platform for development of media and information literacy is an active participant of the science economy. However, the value of the Institute’s work (scientific benefits) is perceived differently by stakeholder group, and hierarchy emerges from those that value it most to least. Hence, donors recognize multiple benefits from the initial investment related to the capacity building, visibility, and networking. The Institute increased profile through utilization of scientific research platform. Civil servants engaged in platform are deemed as professionals with prolific political entrepreneurial capacity. For all other direct participants, value is that they are members of the scientific community in some capacity. In that sense, the Institute ensured an efficient value exchange mechanism which enabled all stakeholders to receive recognition for the value provided. The main challenge here is that the science economy that the Institute is part of is not sufficiently differentiated to reflect each of these contributions proportionately and rapidly because value exchange is skewed by general lack of knowledge and understanding that the media and information literacy is a key competence for societies and individuals as argued by Gallacher.

*Emerging order* – The Institute’s experience with emerging order, (where order is understood as the coordination of resources, presumably for benefit) indicates that the Institute managed to create a scientific research platform through a process of constrained spontaneity, freedom for self-organization, leading to consensus regarding best practice. The balance of constraint and self-organization varied in different stages but the common purpose of generating knowledge acted as a guide for an efficient resource coordination. It is expected that this will be maintained in all future similar initiatives.

*Institutions* – The Institute’s experience is that participating Institutions assign property rights (and will do in future because that is their main purpose as Gallacher argues). Within the science economy these rights are expressed in terms of who may control or claim credit for an activity (ibid.). With the regard to this aspect the Institute managed to ensure that all participants in the scientific research platform got due credits despite the fact that portion of the initiative was not exclusively academic (strategy related activities). In that sense, academic attribution was expressed in terms of authorship or acknowledgement. However, it is uncertain what

will happen regarding the authorship if the practice from the Canton Sarajevo is disseminated over time as best practice, and it becomes adopted as a convention for the remainder of Bosnia and Herzegovina and wider.

*Property rights* – Regarding the Institute’s platform experience, property rights are clear because all work, and all outputs are produced in open science approach. It is previously established that the Institute’s research platform for development of media and information literacy is a learning common. As such, it is a learning common as much as libraries are (Čukić, 2021). Considering that similarity, it is possible to assess the Institute’s platform using Bryan Sinclair’s (2007) five guiding principles pertinent to libraries as commons:

- Open,
- Flexible – free space arrangement,
- Comfortable,
- Inspiring,
- Practical.

Open refers to the unconfined and inter/cross-disciplinary and anti-disciplinary nature of the platform. It refers to both design of the platform and the conceptual layout of main activities and tasks. In terms of design, in context of conceptual sense, the Institute’s platform combined various disciplines in exchange of ideas.

Flexible refers to the Institute’s relaxed organization of workspace, aided by network communication, so that a working space is flexible, mobile, even virtual (digital), instead of being a fixed workstation. Hence, the Institute’s platform participants are free to explore and learn anywhere, to group themselves as they see fit and not as prescribed by some authorities and decided for them by somebody else.

Comfortable refers to the fact that the Institute’s platform is conceptualised to serve many types of users and learning styles, not just one. It fosters atmosphere conducive to group or individual work.

Inspirational side of the Institute’s platform refers to design and layout of activities and research arrangements which present a uniform and consistent vision of functionality, sophistication and creativity.

Practical refers to the fact that the Institute’s platform provided a place where real work can be done and real learning can take place as Sinclair stipulates (ibid.). Its layout and design rely on principles that recognize the real needs of users and facilitate interaction, but also enable individual work and learning.

## 5. Conclusion

The fourth industrial revolution, understood as change to technology, industries, and societal patterns and processes due to increasing interconnectivity and smart automation, is more than just improvements to efficiency, but express a significant shift in industrial capitalism (Bai et al., 2020) but even more in way academia, science, research, education, and learning are understood and incarnated. The emergence of a new paradigm of Open Science changes the environment in which science operates bringing new opportunities and challenges arising from technological developments that are also broadening the horizons of scientific openness. The crucial question for the Open Science mission should be found in open access to the record of science; open access to scientific data and evidence; openness to and engagement with societal stakeholders; and access to the computational and communication tools of the digital revolution that are essential for societal participation (International Science Council, 2021).

Disruption via praxis through science research platforms is a necessity for sustainable human development and for the nourishment of knowledge society (which are connected and interdependent). This paper was based on the vision and praxis of the authors and their hands-on experience in efforts to explore, analyse and conceptualize approach and results of the Institute for Social Science Research of the Faculty of Political Science of the University of Sarajevo (the Institute) in research, development, advocacy, and integration of media and information literacy into the education system in Bosnia and Herzegovina. Hereby, it was illustrated how a scientific research platform can be used to influence, and create optimal model for public intervention, through public policy rather than just to serve as a platform for the academic advancements and as project implementation tool. In the process, it organically developed as a university-based science platform. It became a common good with main purpose of facilitation of science and the generation of knowledge infused with active advocacy and lobbying for practical applications of the scientific innovations developed by the said science research platform.

We can reaffirm that the scientific research platform on media and information literacy at the University of Sarajevo can be understood as the praxis grounded, in open science environment, nourishing principles of commoning. Best illustration is the submitted draft of “The Strategy of media and information literacy development in education area in the Canton Sarajevo” and developing the Hybrid model of multistage integration of media and information literacy.

With an uncertain future of (digital) education, hence science and research, as well as, the analogue concept of universities, the role of (public) research institutes and their scientific research platforms in the Western Balkan countries is instrumental to development of these societies and generating best possible results from digital transformation.

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