

Towards Reinvigorating Academic Library Use Data Capabilities: a Library and Information Science Senior Student Workshop Experience

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Abstract:

Purpose - This paper seeks to encourage reflections on the extent to which a one-shot workshop can help about-to-be information Professionals understand and appreciate the gamut of complexities and challenges associated with library position in the emerging Learning Analytics (LA) ecosystem.

Design/methodology/approach – It focuses on the description of the experience in organizing a workshop at the Department of Archival, Library & Information Studies (ALIS) of the University of West Attica. Building upon desk and primary research findings, organizers envisioned providing a valuable opportunity for senior students to collaboratively help identify the hidden value of student generated data for the support of their success and retention. Analyses of lessons learned, student viewpoints and recommendations for the future, all aim contributing knowledge to the meta-community of Higher Education library professionals that are exploring ways to streamline their smooth integration into the educational process taking full advantage of new ICT capabilities.

Findings - Students seemed to have quickly developed a substantial understanding of risks and opportunities involved in this type of innovation as reflected on detected differences between a set of pre and post-workshop survey indicators. Furthermore, student evaluations on workshop design, delivery and content quality have provided valuable input on its usefulness and a set of recommendations for change.

Originality/value - It presents and analyses observations of the first Greek LIS community initiation experience to current Learning Analytics landscape, a topic germane to university libraries that could eventually influence New Information Professionals' mindset and aspirations.

Index Terms — Academic Libraries; Learning Analytics; Workshop; New Critical Skills; Library Data Capabilities.

I. INTRODUCTION

A. Brief workshop overview

The workshop held late February 2018 at the University of West Attica Department of Archival, Library & Information Studies was designed to establish a strong basis for understanding challenges facing in-library use data collection. Special emphasis was placed on ways these data can be further capitalized through integration in wider institutional learning analytics initiatives as a response to calls for accountability and to providing proof of library impact on student outcomes.

Building upon research, experience and expert advice and combining in a two and a half (2 ½) hour duration format the flexibility of one-shot workshops with in-depth content and hands-on practice opportunities, generally offered by credit courses, it covered a variety of subtopics among which:

- a. Initiation to the variety and scope of Analytics use in Higher Education (HE),
- b. Overview of Library-Learning Analytics joint initiatives in the U.S., U.K. and Australia,
- c. Presentation of Library integration in Learning Analytics (LLA) topic related research future directions,
- d. Discussion of University stakeholder perceptions towards LLA,
- e. Exploration of LLA associated risks and challenges and its potential impact on university student success and retention and
- f. Introduction to strategizing LLA interventions, recommendations and best practices.

B. Conceptual Framework

“The present is already, future-bound. Not only can we use the past to understand the present, but we can use the future to understand it too. We need to study the future to take better decisions today. Human and social sciences should move from being primarily past-oriented sciences to become primarily future-oriented sciences” [1].

In our constant renewal and re-invention era [2],

accountability calls keep rising and new educational theories are driving or even dictating new library, faculty and academic advisor interactions within informal learning spaces where most learning actually takes place. Within this context, there is an acute need for the academic librarian, grappling with his emerging role in bridging teaching and self-oriented study spaces [3], to become more actively involved in the assessment conversation by embracing transformational changes and adopting proactive intervention strategies [4].

Despite the opportunity offered by current higher education environment to accelerate change [5], librarians still cannot develop a higher profile within the context of the institutional mission and as surveys indicate [6] impact assessment is a field still in its infancy for the research library. A series of face-to-face interviews late 2016 with library executive staff and students [7], brought to light the lack of familiarization with new trends and developments in academic library practices and emerging tech capabilities to showcasing and evidencing library's contribution to student success; these findings making the introduction to this new and quite promising line of research even more necessary now than ever before.

In the face of existing ambiguity and lack of consensus about New Information Professional (NIP) specific skills and attributes [8], [9], [10] leading to a dramatic growth in the size, complexity and diversity of course offerings, curriculum developers often find themselves "adrift in an ocean of information" [11], [12]. With curricular reform still being a slow-paced and time-consuming process and, according to [13], library education being reproached for not properly preparing its students for their subsequent job responsibilities, a growing number of experts agree upon the following priorities: (1) the urgency to preparing inventive, proactive and forward-looking professionals able to explore and develop "new models, new skills and attitudes, new metrics, new ways of looking at old problems, and new approaches for new problems" in a partnership fostering way [14], (2) the need for LIS program reorganization and alignment [15] and (3) the necessity to refresh librarian skills with new understandings around a number of aspects among which the intangible value of in-library use generated data neither explicitly nor implicitly listed on academic libraries balance sheets and potentially conducive to making the library attractive and meaningful to its stakeholders; a necessity that is often reflected in students' expressed interest in pursuing postgraduate studies [16], improving curricula and restructuring contents. According to LIS community 'movers and shakers', in-depth reconsideration of the entire environment of professional practice and knowledge, skills and attitudes (KSA) that LIS program developers currently regard as necessary to professional competence [16] will ensure in the medium and long run a pipeline of ambidextrous Information Professionals with the abilities necessary to:

- adopt flexible and agile approaches towards user

evolving needs,

- ask "hard deeply intense" if not disturbing questions about our profession in order to fully understand and formulate our new image [18],
- move from the predominant collection-focused worldviews to outcomes and learning,
- contribute to improving institutional culture and
- participate in governance, privacy and decision-making conversations.

C. LLA topic importance and relevance

These context changes have forced Information Science professional associations to start consolidating guidelines [19] around inter alia encouraging partnerships within structures that support the academic community and developing library professional skills to support the educational process, including the reshaping of the diverse workforce qualifications charter by taking a flexible and dynamic holistic approach that if not adopted could sooner or later put librarians on the spot.

As the field is apparently in transition with exclusively library-centered views losing their significance, South European academic community, following a HE curricula reform process [20], is already confronted with a series of critical questions regarding ways to support the New Information Professional (NIP) against:

- the underrepresentation of New Critical Skills (NCS) in undergraduate curricula that do not exceed 19% of the entirety of official LIS programs [21],
- the incapacity of early adopting systematic changes before it becomes absolutely necessary [22],
- the predominance of a traditional library core operations-oriented LIS undergraduate study agenda and
- the universal paradox of developing tools before skills [23].

In these turbulent times, the adoption of self-regulated flexible solutions driven by (1) recent findings on LIS education's adequacy to current job market requirements [24], [25], (2) curricula evaluation reports that emphasize the pressing need to reconceptualize librarian knowledge acquisition and skills development practices [26], [2], [27] as well as (3) "a systematic and ongoing engagement with the international research in the field...", could offer "...some of the best defenses against both extremes". (Humboldt University) [28].

D. LIS Undergraduate Curricula addressing New Critical Skills and the role of co-curricular formative activities

As undergraduate degree programs are quite demanding but often lack the necessary flexibility to address new emerging fields, LIS Schools around the globe more frequently nowadays are delivering seminars and workshops ranging from drop-in one-shop instruction to mandatory week-long introductions to cutting-edge research and technologies, adopting an open pluralistic policy where complementing official curricula is concerned.

Within this realm and, although workshops and seminars are more common for master degree programs in Library and Information Studies (MLIS), offering brief however in-depth examinations of specific aspects of the profession, the Academic Committee had decided to authorize delivery of the iSLaC workshop entitled “Unlocking the potential of library data integration in Learning Analytics initiatives” seen as one of these situations in which a workshop would be the best choice to get future LIS professionals ready for the change, that is the beginning of something new as in reconceptualization of the role of academic librarian in a flexible and time efficient way. It aimed to offer students, especially final year undergraduates that already have a thorough knowledge of LIS fundamental concepts, the opportunity to go beyond the horizons of textbooks and understand and learn different ways of thinking by means of a participatory, time limited, self-contained workshop that created an intensive educational experience, forming part of the activities of a short doctoral research stay for the purposes of a thesis revolving around library use data collection practices and its potential ICT assisted capitalization prospects.

Our workshop aimed to familiarize participants with:

- the new and exciting opportunities provided by the systematization of in-library use data collection as seen through the Big Data and Analytics lenses in response to today’s academic library’s weaknesses and external pressures to justify its budget and prove its strategic alignment with wider institutional goals [29],
- the new informational scenario where data intensive computing has considerably broadened the scope for data collection and sharing and
- the growing number of organizations that have already started to include library input (e.g. in-house consultation, reference, writing labs, seminars, workshops, study room use, equipment use data) along with other datasets produced by and gathered on behalf of students from across the institution in Learning Analytics comprehensive platforms that help predict and advice on learning and contribute to creating more complete learner profiles [21].

Our paper documents major issues discussed during the workshop that attracted a total of thirty senior students over two separate sessions. Aiming to (1) help participants grow an understanding of the existing diversity of LLA projects and related technologies, (2) guide them through the process of conceptualizing challenges and benefits associated with the design and development of similar projects and (3) co-construct a strong knowledge base that will enable New Information Professionals to cope with the future academic library requirements, it was comprised of the following three sub-modules:

- a. the first focusing historical context and background material,
- b. the second showcasing library-specific primary

research findings and expert viewpoints on the topic and

- c. the third revolving around HR development and ways librarians can become actively involved in the institutional LA conversation.

II. WORKSHOP SETTINGS

A. *Techniques and strategies*

Workshop content, activities and presentations gravitating between instruction and introduction, so that participants learn by listening, seeing, reflecting, and acting [30], were designed to gradually initiate participants to in-library use data collection changing landscape. All modules held in a projector equipped computer lab, consisted of lecturettes, short discussions and student feedback to keep everyone focused. Completion of digital surveys and flipchart dot rating over a number of different topic-specific aspects intended creating an interactive environment and provide valuable feedback on both the workshop effectiveness and the topic under discussion, allowing for general patterns to be more easily observed and discussed.

III. DESIGN

A. *Planning*

After having carefully considered the topic and the audience’s preconceived attitudes (by means of a pre-workshop questionnaire) as well as contextual information regarding workshop attendance circumstances, organizers prepared a range of materials and activities, to enhance student experience and knowledge retention. The design phase was driven by the generally acknowledged fact that a medium size workshop no matter how ideal it might seem for presenting both context and specifics of the topic, is however more than long enough for attendees to get bored or overwhelmed.

Furthermore, cognizant of one-shot sessions associated frustrations and limitations as they are difficult to assess, typically cover too much information and rely on passive learning, the organizing team decided to (1) include a set of Active Learning Techniques (ALT), by incorporating assessment to measure student retention of basic concepts and organizing content into manageable “learning conducive” chunks [31] - each “chunk” providing an extra opportunity for learners to reflect.

ALT design was also supported by structuring the workshop in a way that made students accountable for attendance. This involved short multiple-choice questionnaires, incorporating team flip charts for dot-voting (an engaging way to providing participant involvement that facilitates understanding and retention), idea collection and window pane grids, in a combination of lecture, active engagement and discussion, thus enhancing the likelihood that students will better respond to our training approach.

Finally, publication of a set of workshop-related material on the eClass platform prior to participation,

besides introducing trainees to the workshop scope and contents through video, presentation slides, bibliography and previews of the flipcharts to be used during sessions, was intended to spur their interest to investigating the topic further on their own.

B. Group size

With regards to workshop size, we considered, 15 participants per session would be an ideal size as it's small enough so that everyone takes the opportunity to have his questions answered and get some individual attention from the presenter, but still large enough to generate some lively discussion.

C. Marketing

As for promoting the workshop, our decision to market it directly to course instructors as well as advertising on the ALIS Department e-Class in an open call format to the 201 senior students boosted participation that soon fulfilled the organizing team's initial expectations.

IV. WORKSHOP CONTENTS

Following a quick overview of recurring library innovation and sustainability related but not necessarily Library Science field-derived terminology and concepts, the facilitator moved on to a brief nevertheless concise reference to the changing academic librarianship landscape by presenting recent publications and showcasing projects, reports and primary research findings on organizational forces and operational hurdles in the way of a more dynamic and pervasive integration of library service in the educational process.

Sharing knowledge of Higher Education institutions' initiatives around the globe aimed to kickstart the conversation on practices and prospects of new library use data recording and sharing capabilities.

Participants were also provided with the opportunity for an initiation to Learning Analytics and Student Success Technologies and further exploration of what their association with information libraries currently collect or potentially could collect actually entails.

Exploration of prerequisites, challenges and issues associated with the capitalization of the significant in-library student activity derived data intangible asset, helped attendees better appreciate whether and to what extent this may be the solution to current metrics and statistics' inadequacy to demonstrating librarian contribution to student success and retention.

Potential benefits of the envisioned value co-creation opportunity, ways librarians can partake in these innovative interventions, Higher Education community stance towards upcoming developments and the extent to which official LIS Curricula respond to LLA perspective were among critical questions investigated during the seminar. During all three modules, organizers pursued student active participation through engaging students in constructive discussions on the topic within the intention to making their considerations,

in a collaborative and interaction fostering way, part of the wider topic specific dialogue. To this end, participants were also given the opportunity to contribute to the processing of a Roadmap to Library involvement in Learning Analytics initiatives (LLA).

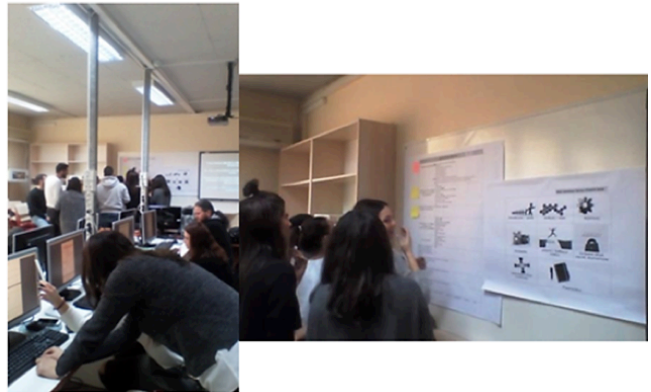


Figure 1. Workshop snapshots

Before the end of the workshop, major findings were briefly reviewed and summarized. Soon after, attendees were sent the link to a post-workshop evaluation form where they were kindly requested to record their opinion on several different aspects that could help better design and implement similar future interventions.

V. DISCUSSION

Before and during the intervention, an online set of survey instruments was made available in order to record preconceptions and student post-module viewpoints and thus give organizers the opportunity to evaluate whether the intervention has had some positive effect to the participant attitude towards upcoming developments. Analysis of questionnaire item responses of the rather homogeneous participant pool sharing similar (1) career aspirations, revolving mostly around research libraries, cultural, archival material digitization, management and preservation, and digital content curation, and (2) LIS knowledge update preferences, namely seminars, social networks and e-learning, reveal as illustrated in Figure 2:

- a slight increase in rating the necessity of library data integration in LA systems that however could be very well attributed to the increase in the numbers of pre-workshop and post-workshop survey participants (28 respondents against 30 attendees translated into a 7% difference); however, as attitudinal changes exceed by far this 7% rate for the rest of the cases presented in the graph therefore this respondent-attendee sample size difference cannot bear any noteworthy effect on the results' validity,
- a considerable rise in the number of respondents envisioning library use data as educational data,
- a decrease in the extent to which they believe that library culture is supportive of LLA initiatives and that librarians can adequately cope with such interventions and finally
- an increase in the percentage of responses judging current library-use data collection practices inadequate in

supporting student progress.

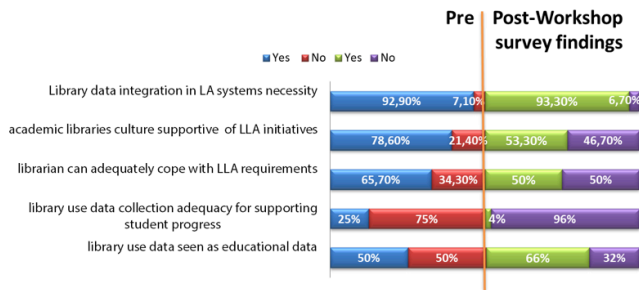


Figure 2. Juxtaposing Pre/Post-workshop survey findings

Additionally, a slight but noteworthy rise can be noted in both priority and student outcomes expectations associated with in-library use data collection systematization. There was also a change in student-defined hindering factors to the systematic academic library student activity recording with privacy issues outpacing funding concerns. It's worth mentioning that although post-workshop survey responses suggest a higher positive attitude toward student activity tracking via smart card use, overall students seem more reluctant to welcoming the systematization of student workflows data collection than before the workshop, which could be partially attributed to the fact that they gradually became more cognizant of complexities this type of innovation entails. Although, according to all 28 pre-workshop survey responses students believed libraries could eventually contribute data to a student success technology platform, in the post-workshop survey, about 1/3 of them do not seem to be sharing anymore the same optimism where libraries actual readiness degree to getting involved in LA initiatives is concerned. As mentioned before, user privacy is by far acknowledged as their primary consideration around the systematic recording of student activity within the library walls while their opinion around usefulness of in-library use data collection shifted from support of (1) student success and (2) institutional efforts to evaluating library impact, towards (1) increase in service effectiveness and productivity and (2) support of collaborative approaches to dealing with HE challenges.

VI. LIMITATIONS, VALUE

Without forgetting in our analysis of the workshop findings, Norbert Schwarz's [33] argument that attitudes are "conceptualized as evaluative judgements formed on the spot" and Tourangeau's [34] similar observation on the nature of attitude expressions as being specific responses to specific questions at specific time in a particular way, our seminar can be seen as an organic, transdisciplinary alternative to learning formalization framed within a wider heutagogical approach that saw participants, in their triple capacity of students, library users and future information professionals, as content and meaning contributors, inviting them to record their viewpoints and making them part of a wider research community conversation around LLA potential.

Overall, this interdisciplinary workshop adding to the gamut of critical questions around library use data capabilities helped:

- raise future library staff and administrator analytics IQ,
- familiarize NIPs with NCS decisive role to making Academic libraries the new learning gravity center,
- change participant worldview with regard to library data collection capabilities and
- instill the necessary spark and energy in them to become "cooperation brokers" [32], helping reinvent the academic library work within changing informational scenarios.

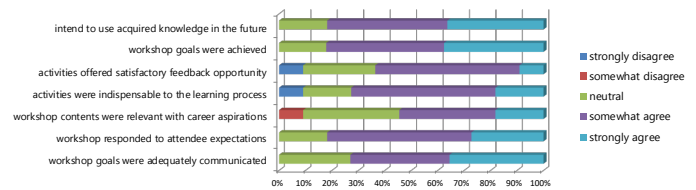


Figure 3. Workshop evaluation items

Overall, their impression was positive in terms of content, presentation and outcomes. They also expressed a number of valuable comments in the survey free text boxes that could take this educational activity one step further. Following their recommendations, a next possible action therefore could or should be focusing:

- adding video and enhancing interactivity,
- developing an online electronic course (e-course) available through the e-Class platform,
- adopting a Flipping the classroom format by providing more orientation material beforehand and
- even considering transforming it into a semester-wide course.

The increasing tension between undergraduate LIS program's moderate compliance with new developments in the field on one hand, frequently falling short of enhancing future librarian innovative capacities and data capabilities, and the envisioned new teaching paradigm-driven pervasive library integration in the educational process on the other, has instigated lately an increasing focus of attention on at least the following aspects: (1) academic librarian co-creation, co-development and co-evaluation activities and (2) the need to equipping New Information Professionals with both the theoretical knowledge and practical know-how to effectively support student learning and demonstrate library value in response to internal and external pressures to relate, converse and change. Therefore, a course framed within a broader set of LIS programmatic changes that would inspire new ways of capturing library intrinsic value and diffusion of creative ideas and influences occurring anytime through communication and exchange processes that govern library workflows, would foster new worldviews, well beyond LRRC traditional scope and mission, making conversation and data-informed innovation a central component of a new

kind of professional profile.

VII. CLOSING REMARKS AND FUTURE DIRECTIONS

Although it has been challenging to design a balanced module to benefit everyone within limited timeframes, judging by participant feedback, it has met its objectives and, despite the fact that this all-at-once introduction to the LLA landscape was a zero-credit activity, it seemed to have been very positively received. Its duration allowed introducing a fuller set of topics and helping participants become more comfortable with new concepts while repetition and sum up favored learning and knowledge retention.

Organizers viewed their interaction with students as an opportunity to learn directly from the Library School community. Workshop activities and post-workshop feedback gave the team a better understanding of the current state of LIS undergraduate curricula accommodation of library metrics research and teaching. They also underscored the importance of framing this activity within a broader awareness-raising campaign on the risks and benefits associated with LLA interventions and possibly extending its reach to wider multidisciplinary audiences. Above all, they sparked a campus-based conversation around the necessity to revitalize the program with new components that will open new avenues in the exploration of library use data potential to reshaping academic librarian remit and functions.

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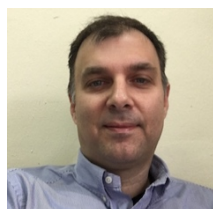
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