Information literacy, data literacy and pedagogical skills
A grid to analyse the perception of two EPFL Library teams

EPFL

Introduction

EPFL Library offers a wide range of support and services to its community, with dedicated teams for this purpose. The **teaching team** and the **research data management (RDM) support team** are part of it and belong to the same unit: Education and Research Support.

It is obvious for team coordinators and the head of unit that there are **high synergies** between teaching librarians and RDM-specialists. Each of them have **complementary skills** that are essential for developing and improving services, including in the area of data literacy.

But do teams have the same perceptions about these skills and synergies? Where do they place those skills in their professional landscape?

To have **a better understanding of their specific perceptions**, we decided to assess the two teams regarding data literacy and pedagogical skills. This approach aims to support Library management in knowing how these skillsets are perceived by each team member, to find gaps or common views and to come up with a vision for future developments.

This poster presents the **grid as a tool**, the **analysis** of the situation of our specific Library, as well as thoughts from each team coordinator and the head of unit. **It is complemented by all materials openly available[1], for reuse purposes as well.**

Methodology

To collect data, a skillset-grid has been developed, including frameworks of data literacy and pedagogy skills. For this, we **selected reference frameworks** such as Podman (2020) and Dalhouse University (2018) for data literacy related skills, as well as the ACRL Standards for Proficiencies for Instruction Librarians and Coordinators (2017) for pedagogical skills[1].

We **listed all skill** blocks and removed duplicates to ensure we had a comprehensive approach. Then, we merged them into a new, **refined framework that highlights** mostly the basic **skills needed to support RDM or to teach**.

We decided to focus on the core skills, in order to reduce the number of questions and keep the essential. We also add explanation to each skill to be sure that teams will have the same understanding as us.

To gather information regarding perception, **we asked the following questions for each skills:**

- Do you think the skill is important for EPFL in general ?
- Do you think the skill should be within the EPFL Library scope/mission?
- Do you think someone currently masters this skill at EPFL Library?

yes / no

- Do you currently possess this skill?

no / yes, novice / yes, advanced

Data analysis

Every member of each team has filled the grid : the teaching team (T, 6 people) and the research data management team (RD, 5 people). To analyze the answers, we opted for the following **weighting methods:**

For columns 1, 2 and 3 : **yes = 1, no = 0.**

It helps to show the adherence percentage to questions: 0% = nobody agrees ; 100% = the whole team agrees.

For the self-evaluation (column 4), we weighted as follows: **no = 0, novice = 1, expert = 2.**

Thus, 0% point = the self skills evaluation rate is zero, 100% = the team's average rate is novice, 200% = the team's average rate is expert

Improvements

It is important to notice that **our sample is very small** and is statistically not representative.

However analyzing the data, we realize several aspects could be improved for **future uses**.

- Answer options left intermediate positions out in order to have more defined answers.
- Skills do not include information about audience (domain, students / PhDs / researchers…) and teaching format.
- The language of the grid (English over French).
- Skills should be categorized explicitly in data skills, IL skills, pedagogical skills.

Results

		Is important for EPFL %		Should be within the Library scope %		Someone currently masters at Library %		Do you currently possess this skill ?	
		RD	T	RD	T	RD	T	RD	T
S01	Knowledge and understanding of the uses and applications of data	100	100	100	100	80	100	140	100
S02	Identifies useful data	80	100	60	100	20	100	60	50
S03	Critically assesses sources of data for trustworthiness	60	100	80	100	40	100	60	67
S04	Use/development of training courses for data-related topics	100	100	100	100	100	100	160	100
S05	Informs themselves about/knows about relevant general and subject-specific RDM guidelines	80	100	100	100	80	100	180	67
S06	Has knowledge of best practices for data structures, types, formats, ontologies, metadata, etc.	100	100	100	100	80	100	120	50
S07	Aware of high-level issues and challenges associated with data	100	100	80	100	60	100	80	67
S08	Provision of advice on data publication possibilities	100	100	100	100	100	100	160	50
S09	Is familiar with existing data centres, repositories, data collections and persistent identifiers	100	100	100	100	100	100	200	67
S10	Knowledge of widely-accepted data citation methods	60	100	80	100	40	100	80	100
S11	Assess methods and tools for data preservation	100	100	80	100	60	100	100	33
S12	Informs themselves about RDM services, processes, contact persons, institutionnally and nationally	100	100	100	100	60	100	160	67
S13	Creates innovative, appealing lessons and their instructional materials aligned with learning outcomes	100	100	100	100	100	100	140	150
S14	Assesses the success and impact of learning experiences and makes appropriate adjustments	100	100	80	100	100	100	100	150
S15	Stays current with trends and innovations in learning and instructional technologies	100	100	100	100	100	100	60	117
S16	Analyzes the needs for each learning setting and employs appropriate pedagogical techniques	100	100	80	100	80	100	40	150
S17	Articulates goals and learning outcomes for IL instruction	80	100	80	100	60	100	60	133
S18	Selects pedagogical techniques for diverse contexts and experiments with innovative tools	100	100	80	100	100	100	100	167
S19	Creates a positive and interactive learning environment which recognizes the importance of context	100	100	80	100	100	100	100	167
S20	Demonstrates enthusiasm for teaching and learning, and a commitment to professional development	100	100	80	100	80	100	100	167
S21	Collaborates in the development of campus-wide IL initiatives with administration and faculty partners	80	100	80	100	40	100	20	67
S22	Models and encourages effective collaboration with other teaching partners	80	100	80	100	60	100	40	100

Scale: 0 10 20 30 40 50 60 70 80 90 100 — **No** ... **Yes**

Scale: 0 20 40 60 80 100 120 140 160 180 200 — **No** ... **Novice** ... **Advanced**

Our point of view

Research Data Management Team coordinator
Eliane Blumer

"In general, the **RDM team is more critical** towards the value and relevance of skills within the scope of the Library. The team has concerns about colleagues ability regarding some skills. Only a minority of analyzed skills is observed to be mastered by the Library. It is possible that the RDM team does not have a clear overview of all skills present within the Library due to a lack of collaboration with all teams. Adherence to data literacy related skills are lower than I expected. Most team members have a background in STEM research, nevertheless data literacy skills come from an information science field. Hence, **it seems necessary to create better understanding and build bridges** between the existing knowledge in STEM and information science, to build on existing skills towards a common skillset.

As the RDM team perceives itself as at least minimum novice also in training skills, maybe this could be an obstacle to ask for support from the teaching team. However, the gap seems wide enough that they can **gain value** from the teaching team and vice versa.

As a team coordinator, I hope that these results will support my team and myself in reevaluating our perceived expertise in the context of data literacy and this way to build bridges towards this domain."

Teaching Team coordinator
Mathilde Panes

"The results show **excellent adherence from the teaching team** with the skills listed in the grid. This alignment, as well as the results regarding the role of the Library and the expertise within the Library team, **indicates matching values and trust with colleagues' skills**.

Regarding the perception of one's own skills, members of the teaching team have different backgrounds and experiences related to RDM. As of now, RDM skill development within the teaching team has been based on affinity with the topic, but gathered data can help shape **talent development for the future** when looking at individual answers.

The expertise of the teaching team in IL and pedagogical skills needs to be characterized as an added value for the members of the RDM team. This is not only a matter of skill but also of professional identity.

As a team coordinator, the results will help me to identify which tools are needed by my team members, to have a higher impact regarding IL and pedagogical expertise."

Head of unit
Guilaine Baud-Vittoz

"For a unit manager, it is clear that **synergies between teams is key** for the development and implementation of a good quality service, and that we have to build those services on team skills.

The grid gives an encompassing overview of the good adherence of team in skills that we identified as important to ensure Library missions. It is a pleasure to see that most of colleagues adhere to this vision and understand its importance for a university Library.

As we can see in the self-assessment part, the competences are not considered to be sufficient (this perception might be realistic or not). These results will help the management team to offer a **continuous learning offer relevant** to each team.

The survey also allows to find experts that are experts and can be **identify as "champions"**. They can share their competences in internal training and help others to level up or gain confidence. It will also **guide our next recruitments**, regarding complementarity of competences within a team, and within a unit.

This analysis will be very interesting to conduct with the other teams of my unit and with other units in the Library (i.e. publication support, repositories, etc.)."

Bibliothèque

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[1] Find bibliography, complete data and reusable materials : https://go.epfl.ch/LIBER21epfl