Evaluating a pilot project to teach machine translation literacy in an academic library… and beyond

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Concordia Library Research Forum

27/04/2021

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How it started

How it's going

Springboard for success =
Researcher-in-residence program (2019)

SITUATION: Increasing linguistic diversity on campus

- Universities in Canada operating in bilingual (EN/FR) environments (e.g. Concordia, Ottawa)

- Universities in English-speaking countries hosting increasing numbers of international students

- University programs being taught through English in countries where English is not an official language

  = opportunity for academic libraries to teach *machine translation literacy*?

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Machine Translation: An evolving landscape

- MT has been around for 70+ years – what's changed?

    1. MT is "in the wild"
        - No longer just in the hands of translators; **free** online MT is available to everyone, and ***many*** are using it

    2. MT is (very! too?) easy to use
        - Copy. Paste. Click. (or maybe just Click!)
        - When things are so simple, it's easy to use them uncritically

    3. MT is undergoing a paradigm shift: data-driven (AI)
        - Older linguistic approach produced "translationese" that was easy to spot! (it was clearly an awkward/poor translation)
        - Newer neural/AI-based approach isn't perfect, but it has increased quality & fluidity making errors harder to see
            - It *sounds* plausible, lulling us into a false sense of security

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Where does this leave us?

- Just because machine translation is

    o Easily accessible

    o Easy to use

    o High*er* quality

- Does this mean that we *instinctively* know how to optimize it or how to use it wisely in a given context?

    o No → we need to develop ***machine translation literacy***

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MT Literacy

- A new type of **digital literacy** that emphasizes *critical thinking* rather than technical competence

  - MT literacy is more a *cognitive* than a techno-procedural issue

    - Not *"how to"* but *whether*, *when* and *why* to use MT?
    - *How* can we interact with MT to improve output? (HCI)
    - By asking these questions, we can become *informed* and *critical* users, rather than people who copy, paste & click without a second thought

  - Can we develop a workshop to help students improve their MT literacy?

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Team effort: People who helped to design, promote, deliver the workshop

Research assistants from Concordia, McGill, uOttawa

What's in the MT literacy workshop?

1) Privacy/confidentiality (don't enter sensitive info in free MT)

2) Academic integrity (reference ideas, not just words)

3) Machine or algorithmic bias (e.g. gender bias)

4) Not all MT systems are the same (Try more than 1! Try again!)

5) Different types of translation tasks (e.g. high/low risk tasks)
   - MT may be a better/worse choice for different tasks

6) GIGO: garbage in, garbage out (Change input to improve output)

7) Post-editing may be needed to further improve quality

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On the big day of the workshop launch…

- Time to regroup… and find a *captive* audience!!!
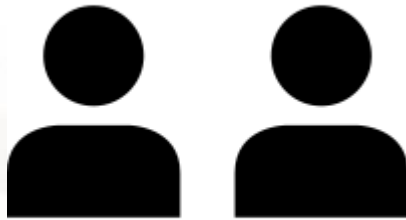
+: both participants said they found it helpful & gave lots of feedback to improve the workshop.

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2 English-as-a-second language classes

	University of Ottawa	Concordia University
Date	October 2019	November 2019
# of participants	27	29
Level	Undergrad: 23 Grad: 4	Undergrad: 27 Grad: 2
Discipline	Sciences (10) Humanities (17)	Sciences (6) Humanities (23)
Native languages	Mandarin (22), French (2), Arabic (1), German (1), Korean (1)	Mandarin (21), Farsi (2), Malay (1), French (1), Polish (1), Romanian (1)

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End-of-workshop evaluations

Statements on workshop evaluation	% at uO who agree or strongly agree with the statement	% at CU who agree or strongly agree with the statement	Av
I learned new things about MT in the workshop	76%	83%	79.5%
I feel confident that I can now use MT more effectively	71%	73%	72%
I feel confident that I can improve MT quality using translation-friendly writing techniques learned at this workshop	63%	66%	64.5%
I intend to increase my use of MT in my studies after this workshop	78%	80%	79%
I will recommend this workshop to a friend or colleague	80%	83%	81.5%
I would like to attend a more advanced follow-up workshop on MT	41%	54%	47.5%

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COVID-19 mini silver lining: 2 new courses

New Literacies for the Digital Age
- 1st-year course for students in *any* Arts program
- MT lit = 1 unit/12
- 67 students

Translation for non-translators
- 1st-year course for students in *any* program
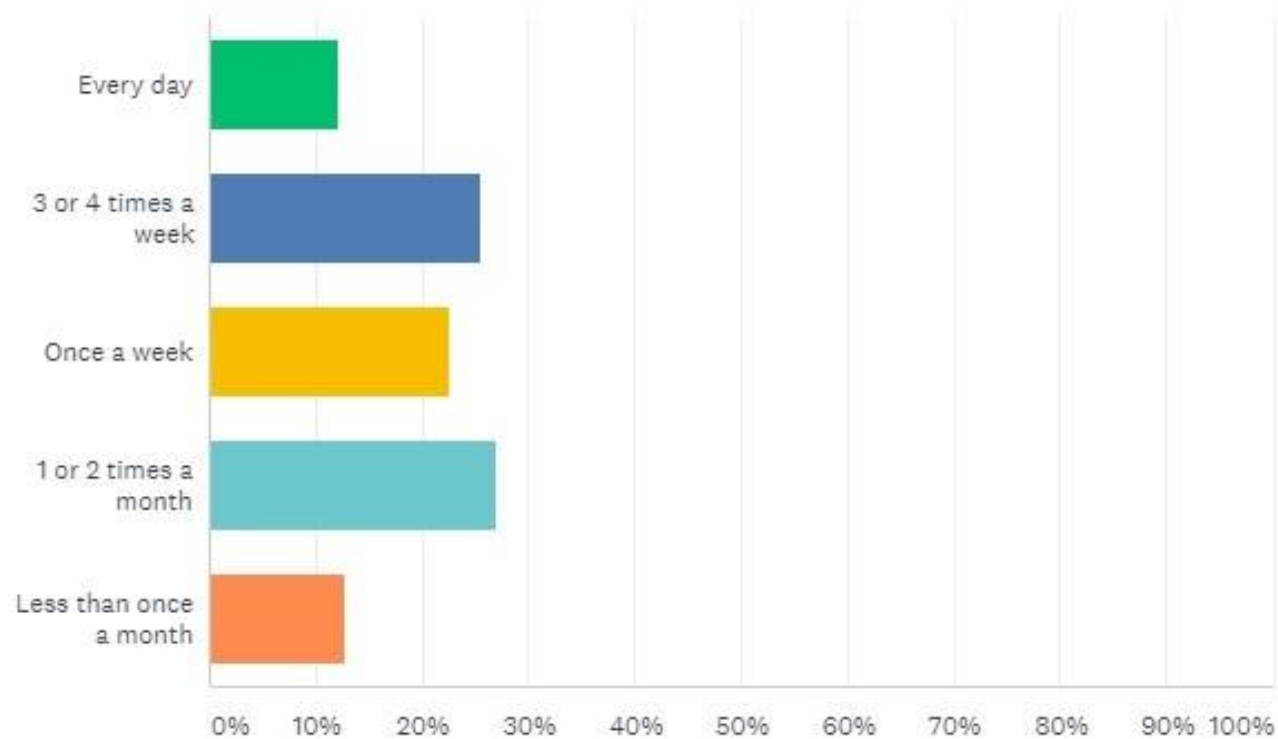- MT lit = 1 unit/12
- 74 students

- 141 students in total

- 42 different programs (fine arts, history, biology, mechanical engineering, social work, etc.)

- 20 different native languages (including EN & FR)
  - Arabic, Bulgarian, Chinese, Farsi, German, Korean, Serbian, Spanish, Russian, Vietnamese, etc.

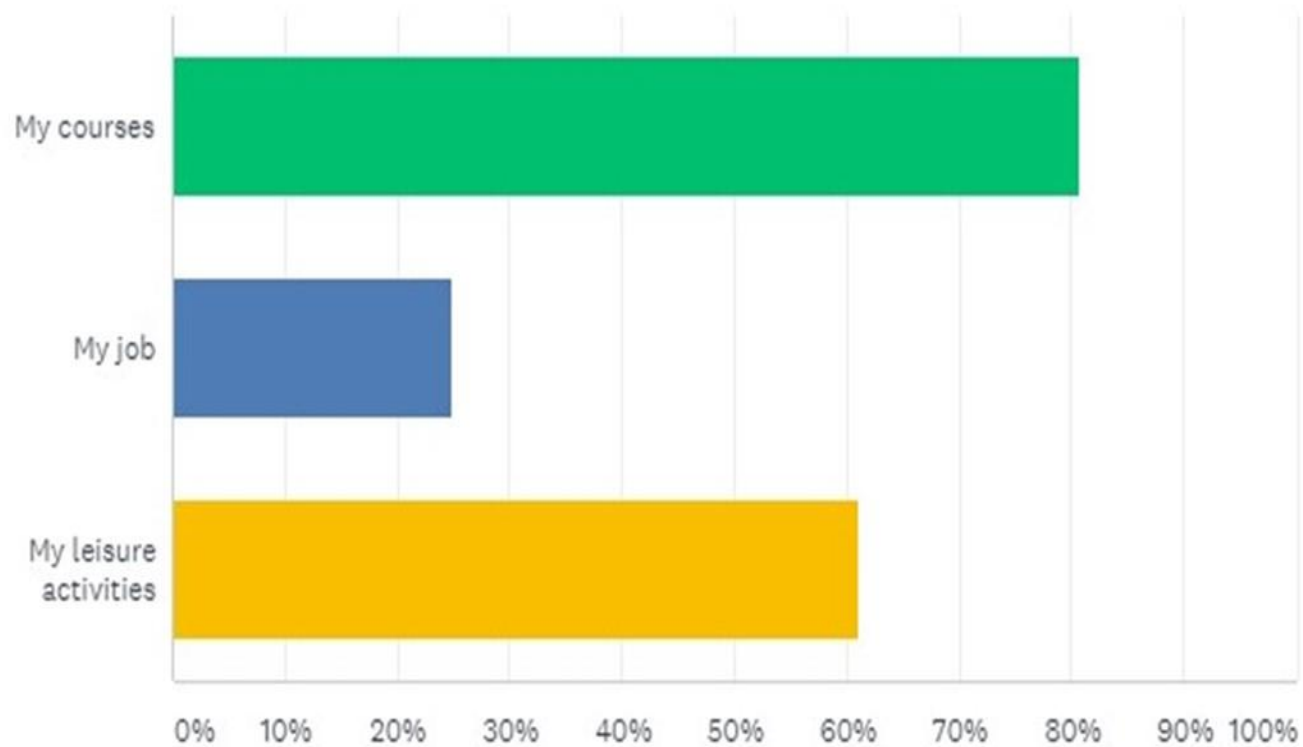uOttawa

How often do students use MT?

Answered: 141   Skipped: 0
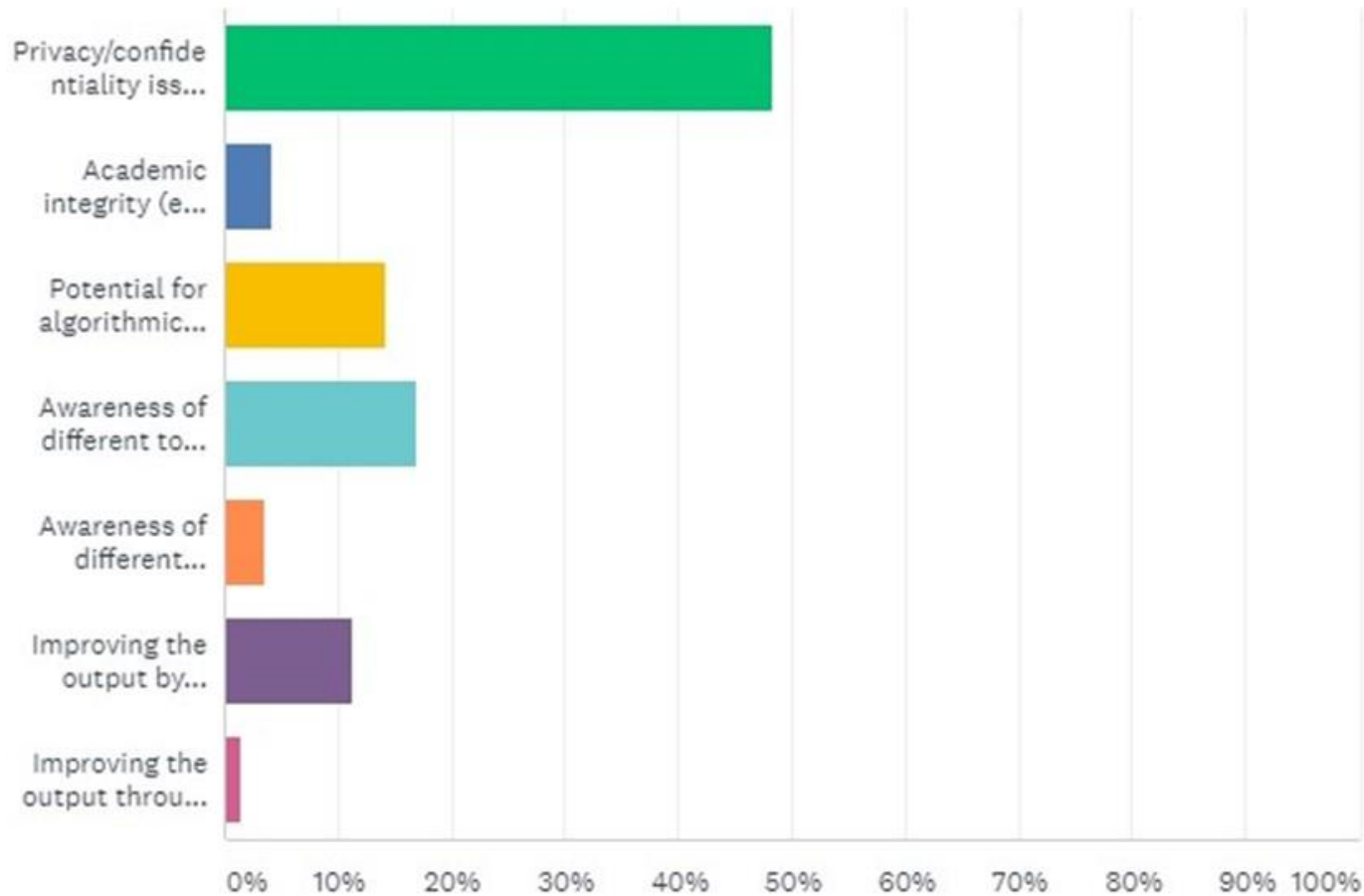
Where do students use MT?

Answered: 141   Skipped: 0

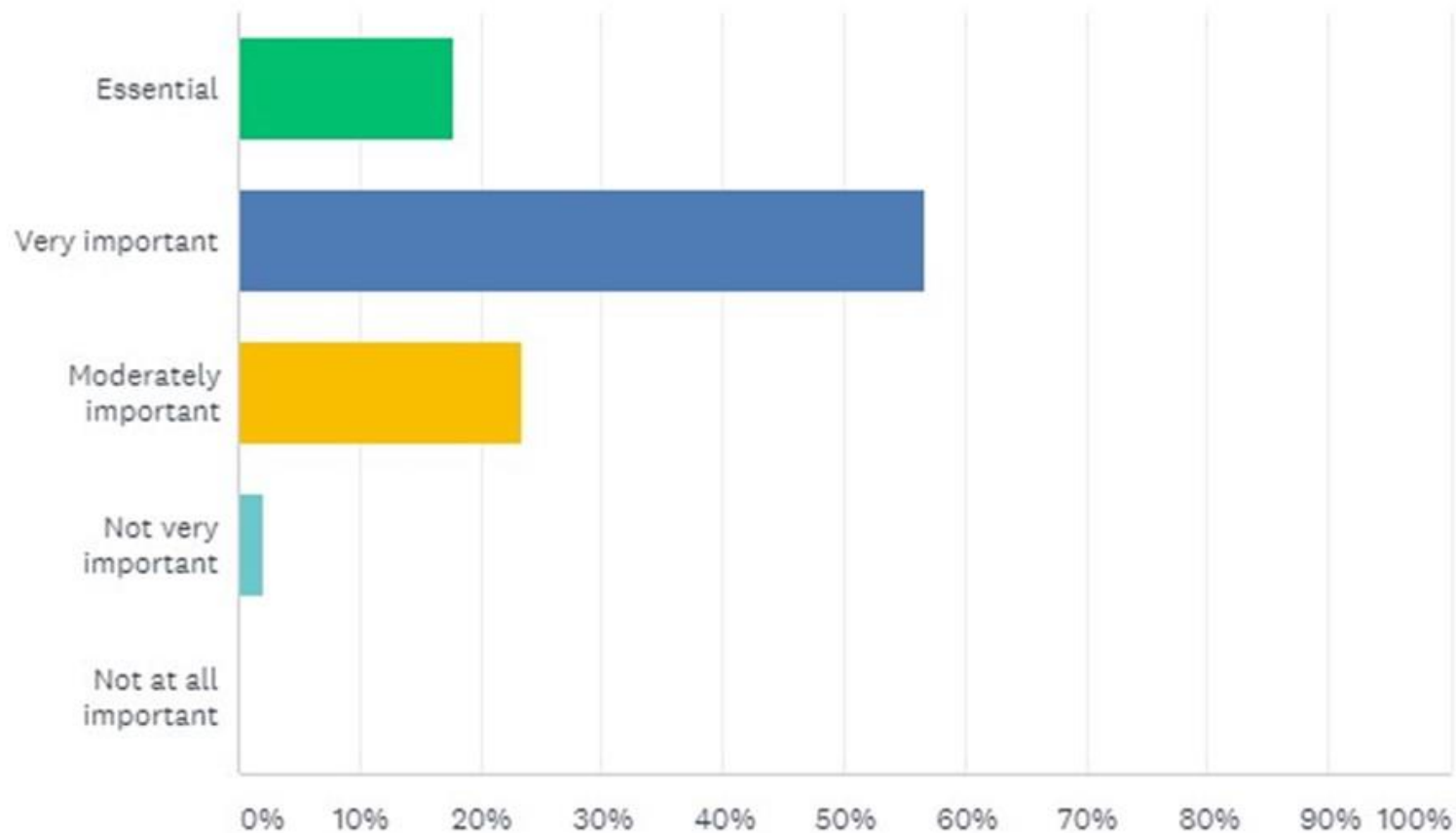# Which MT literacy item was *most* surprising to you?

Answered: 141   Skipped: 0
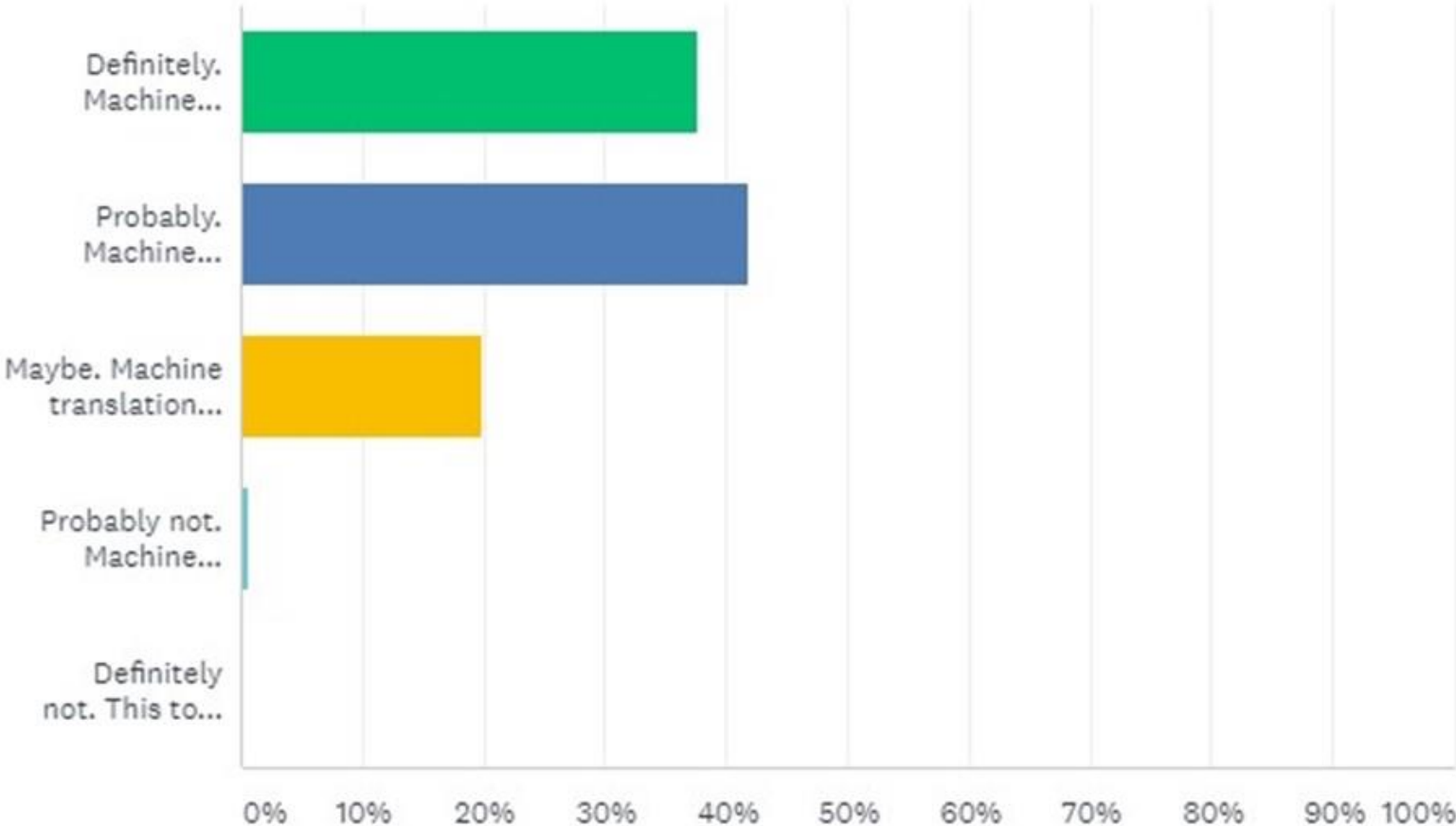

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Is MT literacy important for students?

Should the university teach all students MT literacy?

Answered: 141   Skipped: 0

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Evaluating the workshop: Paradox

- If it's offered as an option, people are unlikely to take it because they don't realize that they need it

    - they don't know what they don't know…

    - MT is easy to *use*

- But people who (are obliged to) take it find it useful!

- Conclusion = the library *may* not be the best place to situate the workshop, but the CUL researcher-in-residence program was key to letting me develop & test it

    - Successfully leveraged this experience to get SSHRC funding to further explore potential of MT for levelling playing in scholarly communication

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