

# Training of trainers - Educational strategies in STEM IL

How to evaluate the training activities

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INFORMATION COMPETENCE AS BOOSTER  
FOR PROSPECTIVE SCIENTISTS



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## Which evaluations?

The evaluation is based on observable and measurable abilities.

# For reminder: Scientific Information Literacy Framework

For the first learning unit, the first pillar is involved

## Presentation

## Construction of the framework

### 1. Define

1.1. Define scientific information literacy

1.2. Explain the role of scientific literature

1.3. Define the information landscape: sources of information

1.4. Define the information landscape: the publishing models

1.5. Define the informational landscape: tools

## 1.3. Define the information landscape: sources of information

- 1 – explain that scientific literature is characterized by its validation process
- 1 – identify the types of documents (journals, books, etc.) specific to the discipline, list the main characteristics of these documents (including medium)
- 2 – explain the role of scientific publishers, editorial boards and reviewers in the scientific publication process
- 2 – describe the role of bibliometric tools in the ranking of journals
- – 3 list bibliometric indicators specific to the discipline
- – 3 estimate the role and limitations of bibliometric indicators

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1.5. Define the informational landscape: tools

## 1.4. Define the information landscape: the publishing models

- 1 – describe the role of publishers and the costs of scientific publishing
- 1 – explain the principles of open access
- 2 – question the costs of scientific publishing (Article Processing Charges...)
- 2 – explain the excesses of scientific publishing (hybrid publishers, predatory publishers, etc)
- 3 – describe archiving and copyright policies
- 3 – Assess the relevance of new modes of scientific communication (researchers' blogs, research notebooks, preprint distribution, etc.)

## Which evaluations?

Self evaluation: to measure the evolution between the beginning and the end of the training (individual)

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Evaluation of the quality of the final answer (of the group) to the problem

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Self evaluation: to measure the evolution between the beginning and the end of the training (individual)

Evaluation of the quality of the participation (individual)

Evaluation of the quality of the final answer (of the group) to the problem

Evaluation of knowledge (individual)



# Self evaluation



## Towards the problem



Self-evaluation Tool [ex ante] [15']

Self-evaluate your level of competence before starting the course



Introduce Yourself [e-livity] [estimated time: 30']



Join your teamwork

**BRAIN@WORK**

# Self evaluation



## Beyond the problem



Assess your knowledge [30']



What I learned? [interactive check-list] [30']



Self-evaluation Tool [ex post] [15']



Self-evaluate your level of competence at the end of the course

**BRAIN@WORK**

# Self evaluation

## Self-evaluation Tool

 [Print Blank](#)

### 1. Evaluate the credibility of Journal

1 = Poor 2 = Basic 3 = Average 4 = Expert

\* Knowledge

I understand and recognize the factors that describe the credibility of a scientific journal.

Livello

1	2	3	4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* Skill

I'm able to find information and data about credibility.

Livello

1	2	3	4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* Competence

I'm able to evaluate the credibility of a scientific journal.

Livello

1	2	3	4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 2. Evaluate the quality of a scientific journal

1 = Poor 2 = Basic 3 = Average 4 = Expert

\* Knowledge

# Activities


Computed from logs since Monday, 12 April 2021, 1:14 PM.

Activity	Views	Last access
 News	251 views by 9 users	Monday, 17 January 2022, 11:38 AM (36 days 3 hours)
 Syllabus	27 views by 9 users	Tuesday, 15 February 2022, 5:16 PM (6 days 22 hours)
 Tutorial	1 views by 1 users	Thursday, 13 January 2022, 1:34 PM (40 days 2 hours)


## Towards the problem

 Self-evaluation Tool [ex ante] [15']	50 views by 13 users	Wednesday, 2 February 2022, 3:39 PM (19 days 23 hours)
 Introduce Yourself [e-tivity] [estimated time: 30']	149 views by 12 users	Thursday, 13 January 2022, 1:36 PM (40 days 1 hour)
 Join your teamwork	96 views by 12 users	Thursday, 13 January 2022, 1:37 PM (40 days 1 hour)

## Live session 1

 Live session 1 [3H]	42 views by 11 users	Thursday, 13 January 2022, 1:37 PM (40 days 1 hour)
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## The problem

 The value matters [interactive video] [estimated time: 30']	46 views by 11 users	Wednesday, 16 February 2022, 1:31 PM (6 days 2 hours)
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# Activities

AM	PBC] [1BE]			the course with id '12'.		
19 January 2022, 11:59 AM	Course: How to choose scientific journals [BW PBC] [1BE]	System	User list viewed	The user with id '89' viewed the list of users in the course with id '12'.	web	109.134.213.82
19 January 2022, 11:59 AM	Course: How to choose scientific journals [BW PBC] [1BE]	System	Course viewed	The user with id '89' viewed the course with id '12'.	web	109.134.213.82
17 January 2022, 11:39 AM	Course: How to choose scientific journals [BW PBC] [1BE]	System	Course user report viewed	The user with id '89' viewed the user report for the course with id '12' for user with id '89'.	web	109.134.213.82
17 January 2022, 11:39 AM	Course: How to choose scientific journals [BW PBC] [1BE]	System	User profile viewed	The user with id '89' viewed the profile for the user with id '89' in the course with id '12'.	web	109.134.213.82
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17 January 2022, 11:39 AM	Course: How to choose scientific journals [BW PBC] [1BE]	System	Course viewed	The user with id '89' viewed the course with id '12'.	web	109.134.213.82
17 January 2022, 11:38 AM	Forum: News	Forum	Course module viewed	The user with id '89' viewed the 'forum' activity with course module id '270'.	web	109.134.213.82
17 January 2022, 11:38 AM	Forum: News	Forum	Course module viewed	The user with id '89' viewed the 'forum' activity with course module id '270'.	web	109.134.213.82

# Activities

**Sujet :** BW\_PBC\_1BE: Setting the Problem

**De :** ' [via Brain@Work]" <noreply@training.brainatworkproject.eu>

**Date :** 10/01/22 à 00:50

**Pour :** "Bernard Pochet" <bernard.pochet@uliege.be>

[BW\\_PBC\\_1BE](#) » [Forums](#) » [Discussion Board \[integrative facility\]](#) » [Setting the Problem](#)



Setting the Problem

by [redacted] - Monday, 10 January 2022, 12:19 AM

Bonjour à tous,

Je vous adresse mes réflexions suite à l'exercice Setting the Problem.

J'ai sélectionné trois revues comme demandé et relevé les indicateurs bibliométriques :

**Nature Nanotechnology**

Snip : 6,143

IF (4ans) : 27,641

# Activities

Site: **Brain@Work**

Course: **How to choose scientific journals [BW PBC] [1BE] (BW\_PBC\_1BE)**

Glossary: **Collaborative Glossary [estimated time: 2H]**

F



## Facteur d'impact

by [redacted] - Thursday, 25 November 2021, 9:51 PM

Indice Bibliométrique d'une revue. Il se calcule comme la moyenne du nombre de citations reçues par article publié dans la revue pendant une durée donnée (par exemple, les deux dernières années). Il donne une estimation quantitative de la visibilité de la revue; il s'agit d'un indice absolu par opposition aux indices normalisés aux domaines de recherche.

I



## Impact Factor Best Quartile

by [redacted] Thursday, 25 November 2021, 10:32 PM

Meilleur quartile pour le facteur d'impact d'une revue. Il s'agit d'un indice bibliométrique relatif. Il situe le quartile dans lequel se trouve la revue par rapport à la distribution des facteurs d'impact de la discipline (catégorie) dans laquelle la revue est indexée. Ces différentes disciplines se basent sur les catégories du Journal Citation Reports (JCR), une revue pouvant être indexée dans plusieurs catégories. Une revue classée dans le premier quartile est donc une revue faisant partie des 25% des revues ayant le plus haut facteur d'impact pour une catégorie donnée; à l'inverse, une revue classée dans le quatrième quartile fait partie des 25 % des revues ayant le plus faible impact factor de cette catégorie.

S



## SNIP

## Quality of the final answer (of the group)

Criteria and levels	PARTIAL (1 points)	BASIC (2 points)	INTERMEDIATE (3 points)	ADVANCED (4 points)
<b>Identify relevant journals (RELEVANCE)</b>	The list of identified journals is limited and completely out of focus with respect to the research topic to be published	The list of identified journals is limited and partially relevant to the topic of the research to be published, some journals are not compatible	The list of identified journals is various and relevant to the topic of the research to be published	The list of identified journals is extremely diversified, relevant to the research topic and takes into account the different subject areas and publication opportunities
<b>Select coherent journals (COHERENCE)</b>	The list of identified journals does not take into account data and constraints included in the problem	The list of identified journals takes only partially into account data and constraints included in the problem	The list of identified journals is coherent with data and constraints included in the problem	The identified journals are coherent with data and constraints included in the problem and includes various options for each element
<b>Making the evaluation criteria explicit (EVALUATION)</b>	The submitted scheme is confused, the various dimensions are not clearly distinguished (what to evaluate, how to evaluate) and the adopted evaluation criteria are not made explicit	The submitted scheme is quite clear, the various dimensions are only partially distinguished (what to evaluate, how to evaluate) and the adopted evaluation criteria are partially made explicit	The scheme presented is clear, it distinguishes clearly between the various dimensions (what to evaluate, how to evaluate) and makes explicit all the criteria used to attribute value to a journal	The scheme presented is clear and complete, distinguishes clearly between the various dimensions (what to evaluate, how to evaluate) adding additional parameters, making explicit all the criteria adopted to attribute value to a magazine and the values attributed
<b>Building an effective solution (EFFECTIVENESS)</b>	The submitted scheme is confused, the various dimensions are not clearly distinguished (what to evaluate, how to evaluate) and the adopted evaluation criteria are not made explicit	The work is quite complete; the strategy applied sufficiently understandable and synthetically described	The work is complete and clear; the strategy applied is identified with precision and well described	The work is complete and extremely clear; the strategy applied identified with precision and easily repeatable
<b>Overall quality of work (QUALITY)</b>	Work insufficient	Fairly complete work	Complete and of a good standard	Complete work, enriched beyond requests and of excellent level



# Individual Knowledge

At the end, they have to know that:

- The quality of a scientific article do not depends on the quality of the journal in which it is published
- Peer review is the quality control system for scientific research
- The bibliographic citation count of a scientific article varies according to the database considered
- Quartiles of scientific journals vary according to the subject area in which the journal is indexed
- A publisher's membership to the Committee on Publication Ethics (COPE) it offers an indication of the publisher's integrity
- A fraudulent or retracted scientific article can be highly cited
- The Aim and scope section of scientific journals offers key information for submission
- Self-citations influence the calculation of a journal's Impact Factor
- Open in Open Science refers to openness of scientific research data, methods and results
- The DORA Declaration is a declaration aiming to change the criteria for institutional assessment of scientific research
- The DOAJ (Directory of Open Access journals) is an essential source of information
- ...

# Individual Knowledge

Question 1

Not yet  
answered

Marked out of  
1.00

associez chaque revue scientifique à son quartile Scopus relatif au domaine "Science des matériaux" pour l'année 2020

Journal of Biomedical Nanotechnology

Choose... ▾

Emerging Materials Research

Choose... ▾

Advanced Biology

Choose... ▾

# Individual Knowledge

First name / Surname	Email address	State	Started on	Completed	Time taken	Grade/24.00	Q. 1 /1.00	Q. 2 /1.00	Q. 3 /1.00	Q. 4 /1.00	Q. 5 /1.00	Q. 6 /1.00	Q. 7 /1.00	Q. 8 /1.00	Q. 9 /1.00	Q. /1.
 Review attempt	V.Alonso@ullege.be	Finished	12 January 2022 10:34 PM	12 January 2022 11:42 PM	1 hour 7 mins	18.00	✓ 1.00	✓ 1.00	✗ 0.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✗ 0.00	✓ 1.00	✓

# Conclusions

## With the online PBL

- we have more evaluation possibilities (e.g. participation time)
- these evaluations are automatic

Remote work remains a concern for a more personal evaluation (e.g. personal interactions)

**Thank you for your attention<sup>1</sup>**

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<sup>1</sup>these slides were created with a Markdown file, Beamer and Pandoc