Richèl Bilderbeek

Richèl, rhymes with 'sea-shell'

Evaluating an evaluation

Every day, four Europeans fill in an ELIXIR Training evaluation. Is it worth it?
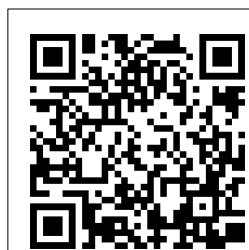
Introduction

ELIXIR is an EU funded initiative with the mission to enable scientists to access and analyse life science data. The ELIXIR Training platform provides the training to help do so. After training, its participants are sent a link to an evaluation form, to 'assess the quality and impact of bioinformatics training' [Gurwitz et al., 2020].

How well does that evaluation achieve its goal? Here, we focus on the mandatory questions that are part of section a section called 'Quality metrics'.

Goal

To **evaluate the ELIXIR Training evaluation**, by:
1) a literature review
2) comparing it to an evaluation that is created transparently with evidence-based informed decisions

QR code to the paper (in preparation)

Research questions

1) What is the history of the ELIXIR evaluation questions?
2) How does the academic literature relate to the ELIXIR evaluation questions?
3) Which ELIXIR evaluation questions are concluded from a fully transparent process?
4) How different are the newly suggested questions from the current ones?

Conclusions so far

There is only **weak evidence** for **one out of five evaluation questions** that it can be used to 'assess the quality and impact of bioinformatics training'. There is **strong evidence** that **one question** (see example) is **useless**.
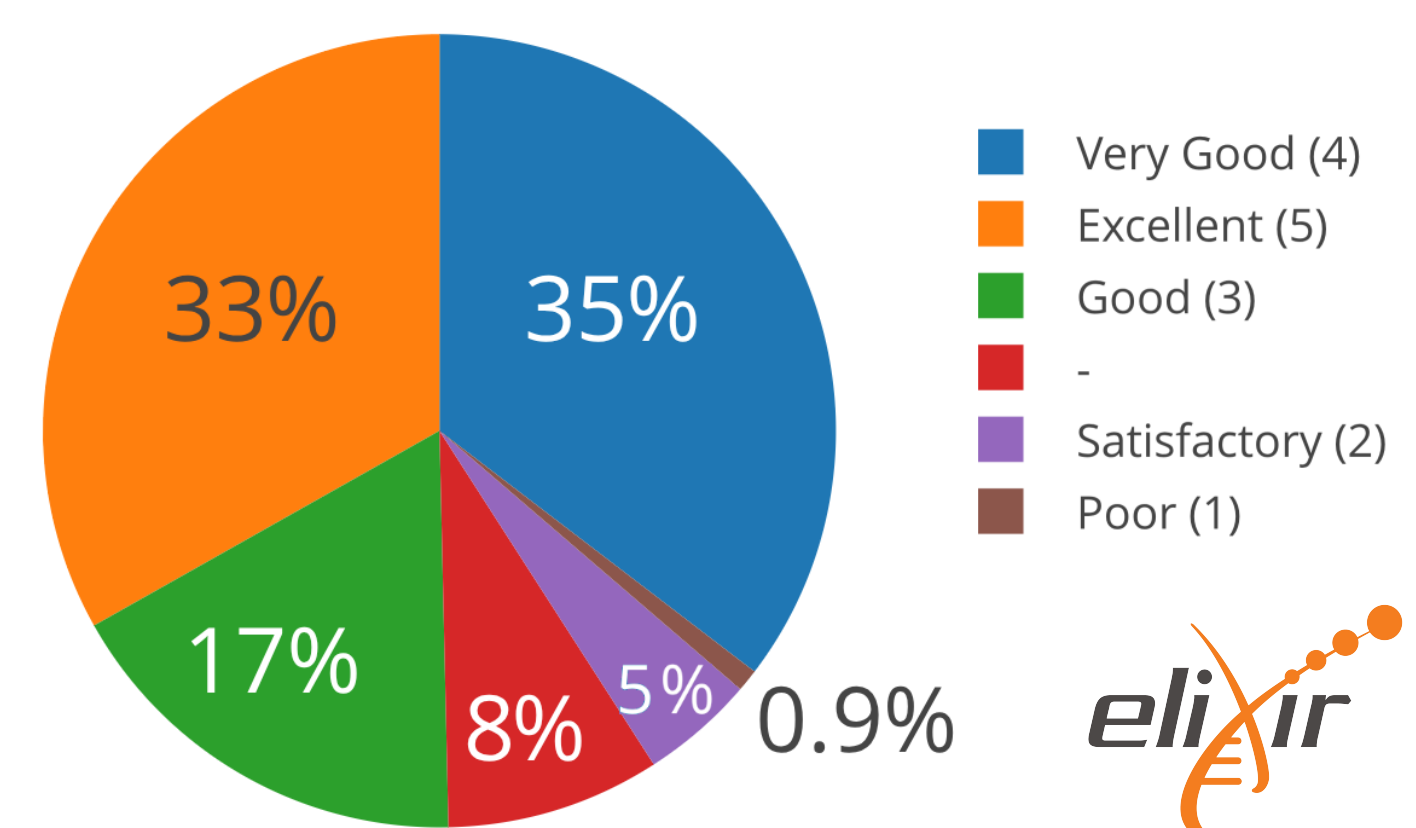
Evaluation question	Connection to the academic literature
Have you used the tools/resource(s) covered in the course before?	None found
Will you use the tools/resource(s) covered in the course again?	None found
Would you recommend the course?	This question is suitable to assess course quality, according to the only study on this [Ang et al., 2018]
What is your overall rating for the course?	Many papers. A critical meta-analysis concludes that this question is unsuitable to assess course quality [Clayson, 2009]
May we contact you by email in the future for more feedback?	None found

References

- [Ang et al., 2018] Ang, Lawrence, Yvonne Alexandra Breyer, and Joseph Pitt. "Course recommendation as a construct in student evaluations: will students recommend your course?." Studies in Higher Education 43.6 (2018): 944-959.
- [Clayson, 2009] Clayson, Dennis E. "Student evaluations of teaching: Are they related to what students learn? A meta-analysis and review of the literature." Journal of marketing education 31.1 (2009): 16-30.
- [Gurwitz et al., 2020] Gurwitz, Kim T., et al. "A framework to assess the quality and impact of bioinformatics training across ELIXIR." PLoS computational biology 16.7 (2020): e1007976.
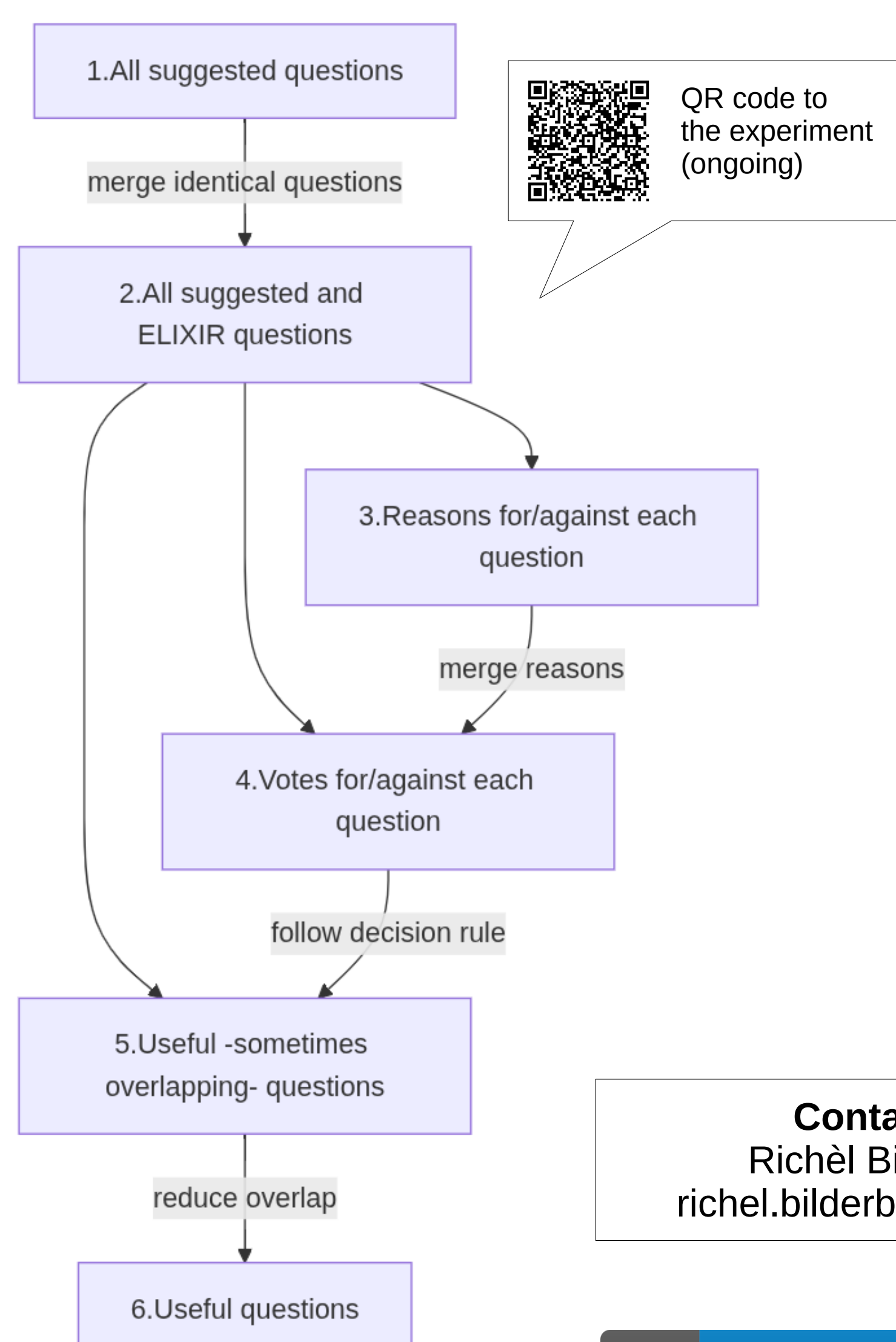
Example

Please tell us your overall rating for the entire course

- Very Good (4)
- Excellent (5)
- Good (3)
- -
- Satisfactory (2)
- Poor (1)

35%, 33%, 17%, 8%, 5%, 0.9%

Adapted from https://tmd.elixir-europe.org/report/set/quality

Searching the literature for 'student rating of courses meta analysis' resulted in many relevant papers. The most important paper is a meta-analysis [Clayson, 2009] that concludes that there are many papers that report a link between learner ratings and any metric. However, this effect vanishes for bigger studies and/or studies with rigorous metrics. It concludes that there is **no relation between ratings given by learners and any metric**.

This means that the ELIXIR evaluation question 'What is your overall rating for the course?' does **not** achieve the goal to assess training quality.

QR code to the experiment (ongoing)

1. All suggested questions

merge identical questions

2. All suggested and ELIXIR questions

3. Reasons for/against each question

merge reasons

4. Votes for/against each question

follow decision rule

5. Useful -sometimes overlapping- questions

reduce overlap

6. Useful questions

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