

A literature evaluation form supports critical reading

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Introduction

Skills in defining a clinical problem, retrieving and critically evaluating information from the literature, and developing independent critical thinking are not widely taught in the veterinary curriculum. Also supporting tools are hardly available.

The objective of this project was to develop and to test a literature evaluation form (LEF) designed to assist veterinary students in appraising the quality of literature on veterinary interventions.

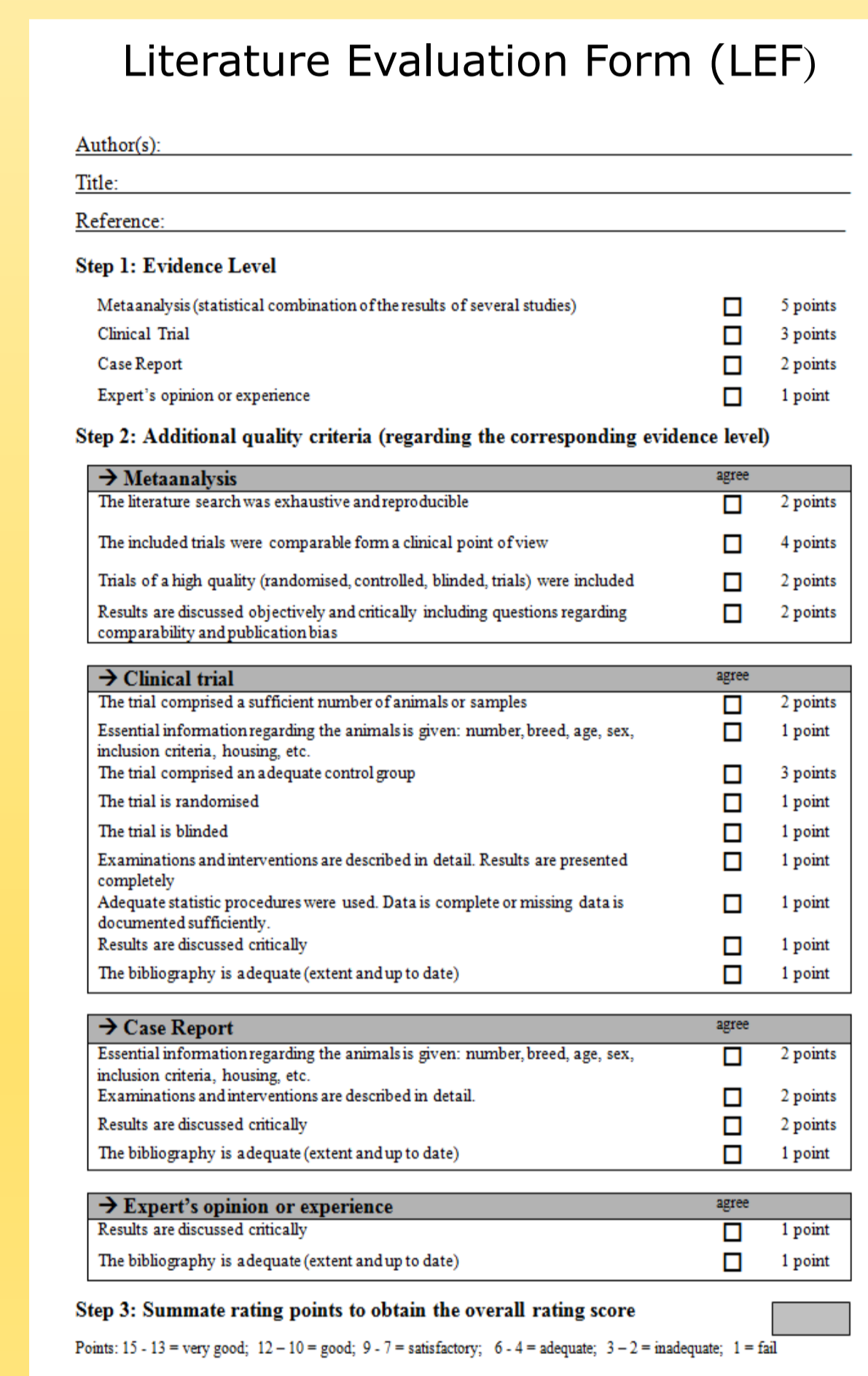
Material and Methods

The LEF comprised statements about study design, information content, and objectivity, and determined rating points to obtain an overall score.

The 68 participants were in their fifth year of study and attended a clinical rotation at the Clinic for Animal Reproduction in 2010. Half of the students were provided with the LEF. As a control group, the other half of participants used a control form (CF) and ranked the quality of the article without assistance. Two German papers with some flaws were selected (paper 1 and 2).

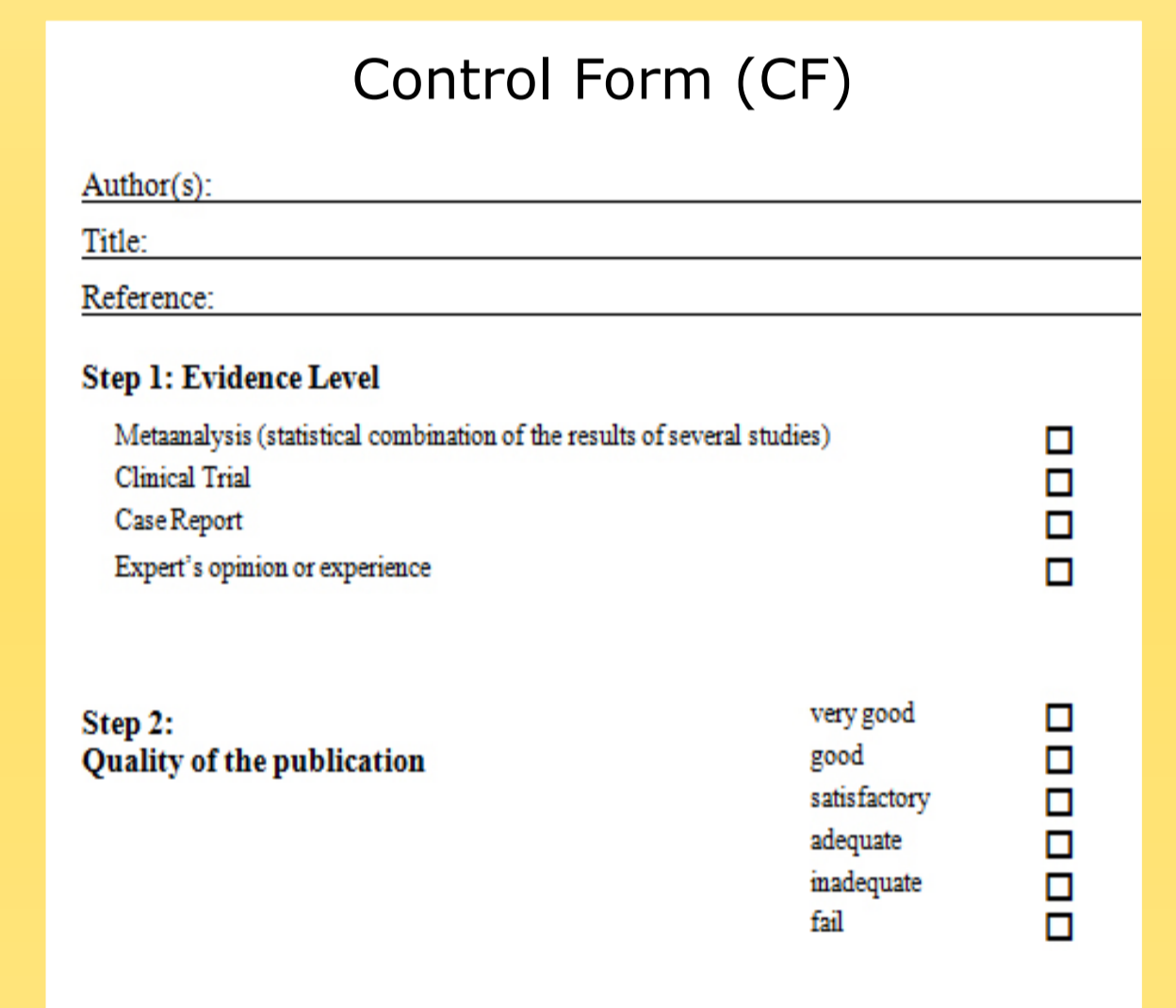
Results

The LEF group was able to more reliably assess the quality of the literature. The variability of the chosen evidence levels was higher in the CF group.

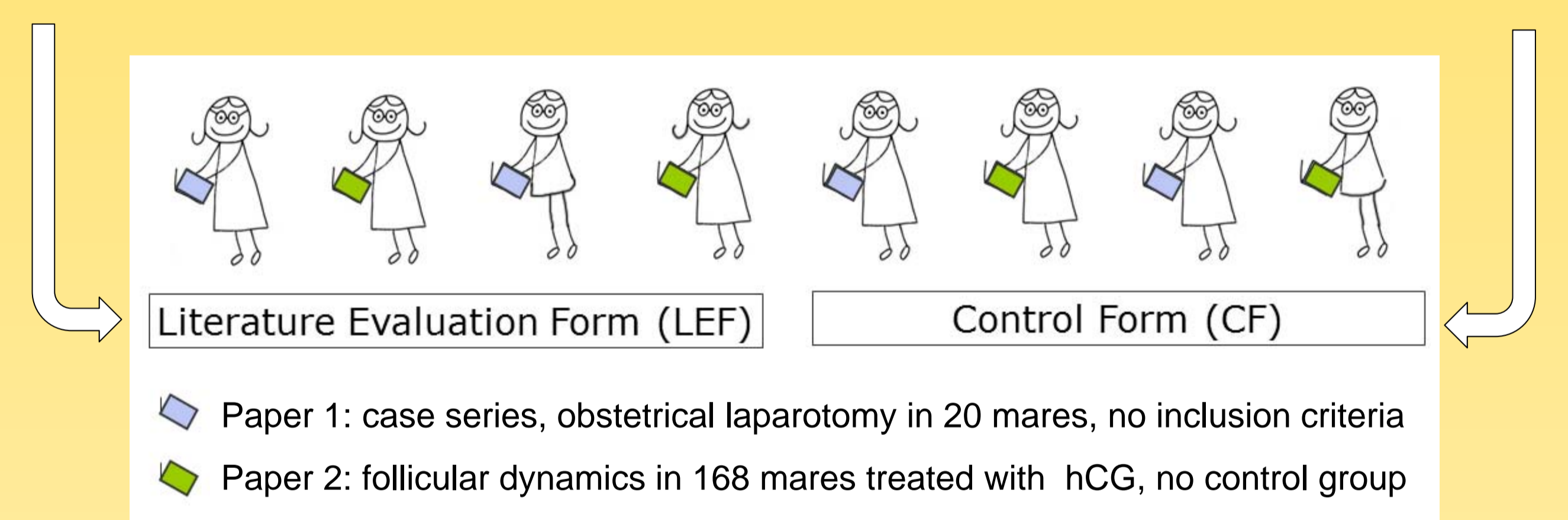


The LEF form includes sections for Author(s), Title, Reference, Step 1: Evidence Level (with checkboxes for Meta-analysis, Clinical Trial, Case Report, Expert's opinion or experience), Step 2: Additional quality criteria (regarding the corresponding evidence level) for Meta-analysis, Clinical trial, Case Report, and Expert's opinion or experience, and Step 3: Summate rating points to obtain the overall rating score.

How to use the LEF
1: Determine the evidence level
2: Evaluate additional quality criteria
3: Sum up the rating points to obtain the overall rating score



The CF form includes sections for Author(s), Title, Reference, Step 1: Evidence Level (with checkboxes for Meta-analysis, Clinical Trial, Case Report, Expert's opinion or experience), Step 2: Quality of the publication (with checkboxes for very good, good, satisfactory, adequate, inadequate, fail), and Step 3: Summate rating points to obtain the overall rating score.



Evaluation of the project (n = 61)	totally agree	agree	neutral	disagree	totally disagree
	number of answers				
By using the LEF it is easier to evaluate the quality of scientific information	10	38	10	3	0
By using the LEF I assessed criteria that I would have not considered otherwise	22	28	8	3	0
By using the LEF evaluation is more objective	7	35	18	1	0
Using the LEF facilitates the consideration whether information should be integrated into practice or not	4	25	26	5	1
Considering the quality of scientific information is important	29	29	2	1	0
Critical appraisal of information should be adequately trained in veterinary education	31	22	7	1	0

Grade	LEF group (n = 19)	CF group (n = 16)
very good	0	0
good	0	6
satisfactory	5	8
adequate	11	1
inadequate	3	1
fail	0	0
average	3.9	2.8

Results of evaluation of paper 1 (Hospes et al. 2000)

Grade	LEF group (n = 17)	CF group (n = 16)
very good	0	1
good	0	5
satisfactory	12	6
adequate	3	3
inadequate	0	1
fail	0	0
average	3.0	2.9

Results of evaluation of paper 2 (Bollwein and Braun 1999)

Conclusions

The LEF was found to be a useful tool for the systematic assessment of the quality of publications within a reasonable period of time. Seventy-eight per cent of the participants agreed that the LEF helped them evaluate the quality and validity of scientific information. 87% of the students supported teaching of critical appraisal of information.

References

- Arlt, S.; Heuwieser, W. (2011): Training Students to Appraise the Quality of Scientific Literature, Journal of Veterinary Medical Education, 38 (2), 135-140
Paper 1: Hospes et al. (2000): Erfahrungen mit der geburtshilflichen Laparotomie bei Zuchtstuten unter Berücksichtigung strenger Indikationsstellung. Tierarztl Prax, 28:159-165.
Paper 2: Bollwein H, Braun J. (1999): Follikeldynamik nach Anwendung von hCG für die Ovulationsinduktion bei der Stute. Tierarztl Prax 27:47-51.