



Satisfaction in rubric use decreases with experience of assessors

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Introduction

Rubrics are evaluation matrices to assess written reports of students in (higher) education.¹ However, the support for rubrics varies widely. Lack of support among assessors can lead to frustration during assessments with rubrics, eventually leading to less reliable assessments.²

Research question: What are assessor characteristics that are related to satisfaction in rubric use?

Material & Methods

This study focused on three assessor characteristics:

- 1) **assessment experience**
- 2) **training** in rubric use
- 3) involvement in **rubric development**

• Participants

Assessors of final theses within bachelor programs 'Psychobiology', 'Biomedical Sciences' and 'Biology' (all University of Amsterdam) were invited to complete a survey. Forty assessors responded (response rate: 18%).

• Survey

The survey contained eleven questions regarding:

- Level of **satisfaction** in the use of the rubric to assess bachelor final theses (1 question).
- Number of years **experience** in assessing written reports with and without rubric (5 questions).
- Participation in **training** in rubric use (2 question).
- Involvement in **rubric development** (3 questions).

• Data analysis

Factor analysis

Identification of independent assessor characteristics measured by the survey.

Multilevel analysis

To determine the relations between **satisfaction** in rubric use and assessor characteristics:

$$\text{Satisfaction}_i = (\beta_0 + \mu_{0p}) + \sum \beta_j \cdot \text{characteristic}_{i,j} + \varepsilon_i$$

Results

• Factor analysis

Table 1 indicates that the survey seemed to measure mainly two characteristics independently: **assessment experience** and **rubric development**.

Factor loadings

Question*	Characteristics	
	Assessment experience	Rubric development
Seniority (Junior/Senior)	0.60	-0.19
Experience in grading (Years)	0.80	-0.05
Experience in grading with rubrics (Years)	0.60	0.10
Experience in grading bachelor theses with rubric (Years)	0.74	0.54
Experience in grading bachelor theses without rubric (years)	0.48	-0.06
Ever participated in calibration session of bachelor thesis rubric (Yes/No)	0.06	0.18
Contribution adaptations bachelor thesis rubric (Yes/No)	-0.02	0.53
Contribution development/adaptations rubrics within same program (Yes/No)	-0.18	0.72
Contribution development/adaptations rubrics within other program (Yes/No)	0.34	-0.01
Sum of squared loadings	2.22	1.23
Proportion variance	0.25	0.14
Cumulative variance	0.25	0.38

Table 1 Factor loadings for each question in the survey. For each question the highest factor loading is printed in **bold**. * The question about "participation in calibration session of bachelor thesis rubric this year" was omitted as only one respondent participated in such a session in the year before the survey was completed.

• Multilevel analysis

Table 2 indicates that there was a significant negative relation between **assessment experience** and **satisfaction** in rubric use ($\beta = -0.89$, $SE = 0.40$, $t(34) = -2.22$, $p = 0.03$).

Relationships

Characteristic	β	SE	DF	t	p
Intercept	7.00	0.57	34	12.18	<0.001
Assessment experience	-0.89	0.40	34	-2.22	0.03
Rubric development	-0.43	0.38	34	-1.15	0.26
Assessment experience * rubric development	-0.11	0.52	34	-0.21	0.84

Table 2 Contribution of each characteristic in the regression model. β beta coefficient, SE standard error, DF degrees of freedom, t t-value, p p-value (significance)

Discussion

Conclusion: Satisfaction in rubric use decreases with experience of assessors.

Assessors with little experience may be supported, whereas experienced assessors may be restricted by rubrics.³ The next step is to investigate what assessors consider favorable and unfavorable elements of rubrics. These findings may lead to guidelines for successful implementation of rubrics in (higher) education.



References

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