

Intergenerational Bridge: Linking Fake News Evaluation with Attitude Toward Science

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15-minute conference presentation

Focus on background, method, key results, interpretation, and implications.

Teachers
(n = 246)

Students
(n = 825)

Slovenia
2025 survey

Why does this matter?

Post-truth misinformation can undermine both trust in science and democratic resilience.

Schools are one of the few settings that can combine media literacy, science literacy, and civic learning.

The issue is not only whether students can spot fake news, but whether school communication makes verification practices visible and usable.

We treat information resilience as an intergenerational school capacity linking evaluation competence, threat awareness, and clear science communication.

Perceived evaluation competence

Can I recognise distorted or false information?

Threat awareness

Is fake news a societal and democratic threat?

Clear science communication

Does understandable communication help protect against misinformation?

Attitudes toward science

Overall image + three facets

Aim and research questions

Focus: Slovenian teachers and upper-secondary students

Study aim

To examine how perceived fake-news evaluation, perceived societal/democratic threat, and the protective role of comprehensible science communication relate to attitudes toward science — and whether those links differ between teachers and students.

RQ1

Do teachers and students differ in how they evaluate fake news and teaching-related communication?

RQ2

Do teachers and students differ in attitudes toward science overall and across specific facets?

RQ3

Which fake-news dimensions are associated with more favourable science attitudes in each group?

Design, sample, and measures

Online survey data collected in Slovenia during oooScience! activities (June–December 2025)

Sample

N = 1,071
Teachers: n = 246 (23.0%)
Students: n = 825 (77.0%)

Age

Teachers: 21–69 years (M = 50.15)
Students: 13–22 years (M = 16.18)

Data quality

Voluntary participation, anonymous responses, valid-response analysis

Measure 1: Fake-news / information evaluation

7 Likert items (1–5 + “don’t know”)

- recognition of false information
- fake news as a societal/democratic threat
- value of comprehensible science communication

Composites: FakeNews_core and FakeNews_teaching

Measure 2: Attitudes toward science

15-item semantic differential

Lower scores = more positive attitudes

Facets: societal relevance, status/visibility, integrity/autonomy

Also analysed as a global index

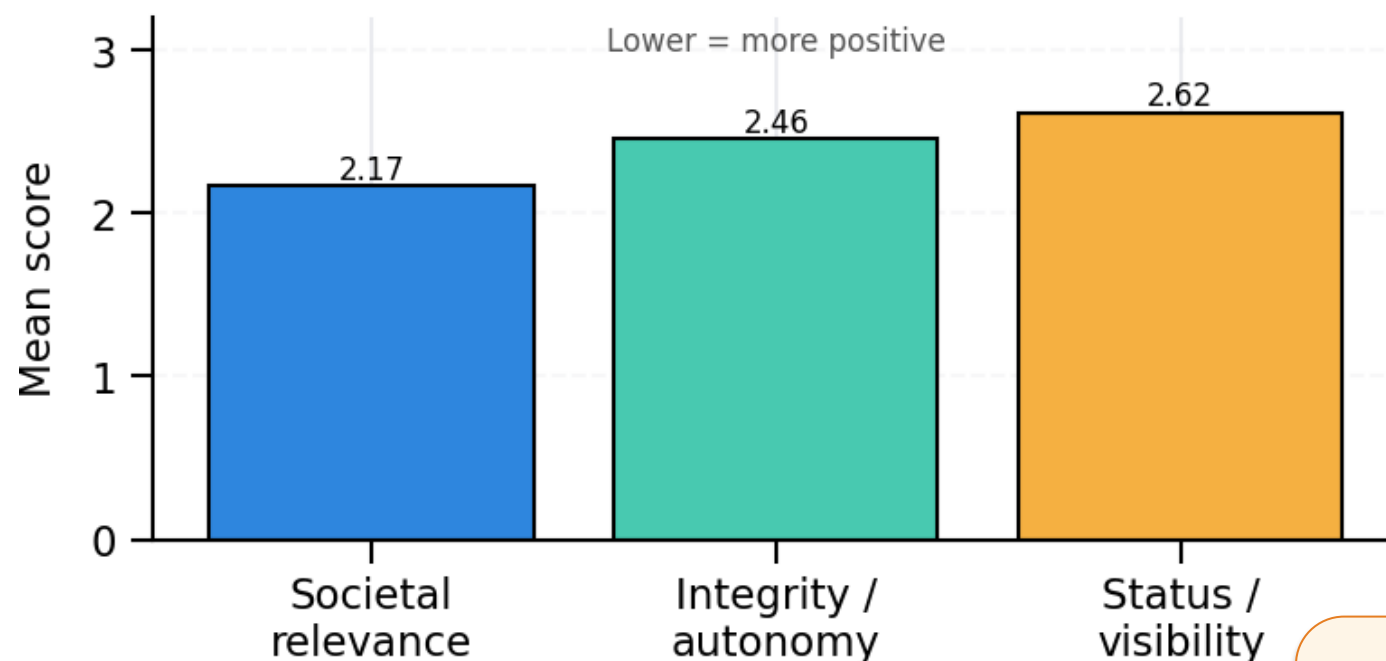
Analytical strategy

Exploratory factor analysis, independent-samples t-tests with Welch correction, MANOVA, correlations by group, and moderated regression.

Overall image of science

Science was viewed moderately positively in Slovenia.

Science image facets (overall)



Global index: $M = 2.36$ ($SD = 0.65$); lower values indicate more positive attitudes.

Most positive facet: societal relevance/utility of science ($M = 2.17$).

Most cautious facet: status/visibility /instrumental benefits ($M = 2.62$).

Respondents especially valued science as useful to society and important for Slovenia's development.

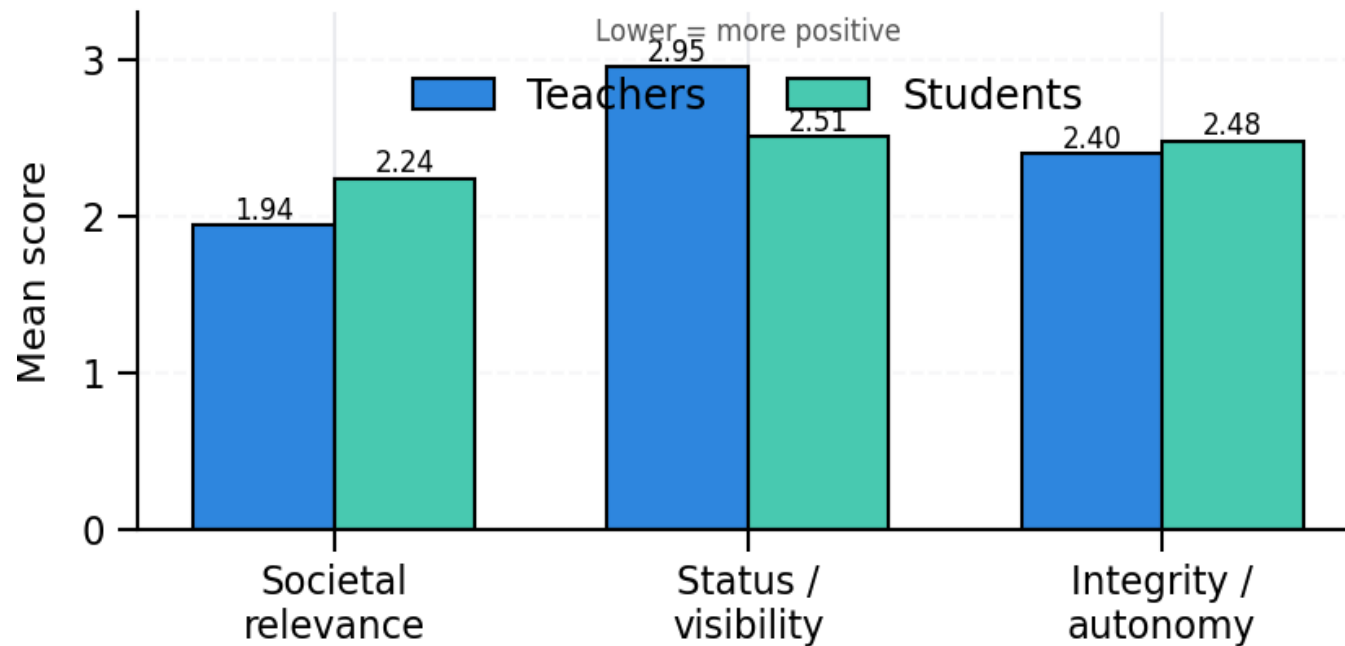
Interpretation

The broad image of science is positive, but status- and institution-related perceptions are more ambivalent.

Teachers and students do not differ globally — but they differ by facet

MANOVA showed a significant multivariate group effect.

Teachers vs students: science attitude facets



Reading note

Because this is a semantic differential, lower scores = more positive evaluations.

No significant difference on the global science-attitude index (teachers $M = 2.33$; students $M = 2.37$; $p = .375$).

Teachers rated societal relevance/utility more positively (1.94 vs 2.24; $p < .001$).

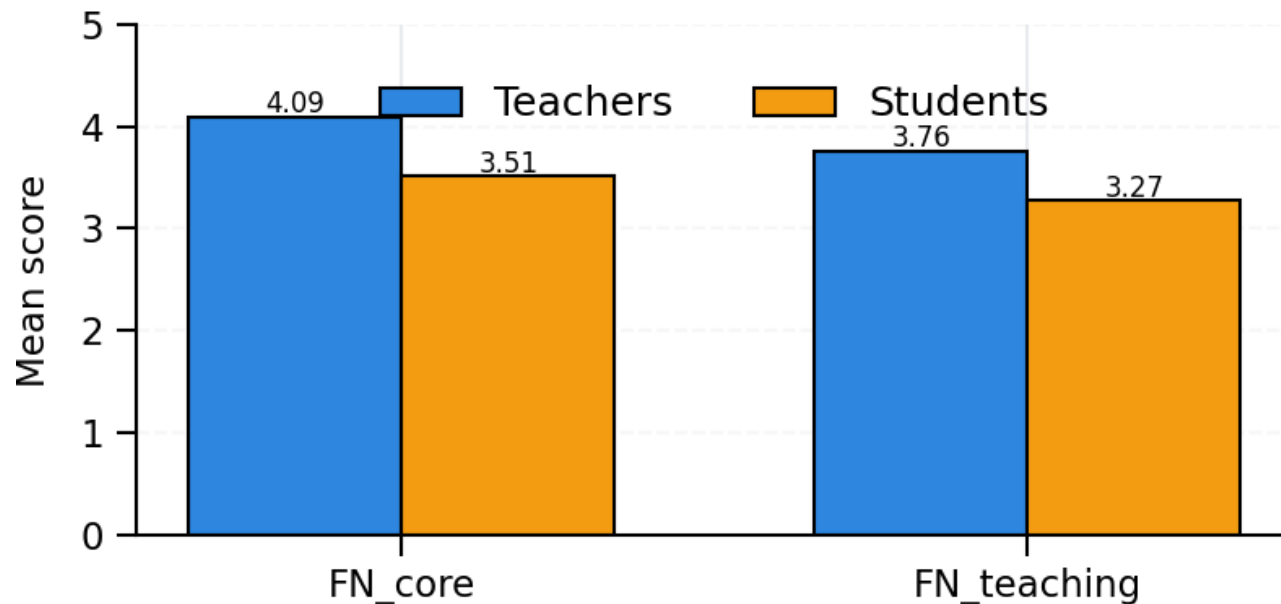
Students rated status/visibility / benefits more positively (2.51 vs 2.95; $p < .001$).

No significant difference in integrity/autonomy / public-good orientation ($p = .170$).

Teachers report stronger fake-news evaluation and stronger teaching/communication ratings

Clear and consistent differences emerged on both composites.

Fake-news evaluation composites



Key message

The results suggest a perspective gap: what teachers think they communicate is not fully mirrored in students' perceptions.

FakeNews_core: teachers $M = 4.09$, students $M = 3.51$; $t = 13.42$, $p < .001$; Hedges' $g = 0.86$.

FakeNews_teaching: teachers $M = 3.76$, students $M = 3.27$; $t = 8.78$, $p < .001$; Hedges' $g = 0.61$.

Teachers more strongly endorsed fake news as a societal and democratic threat.

Students evaluated teacher support for verification skills less favourably than teachers evaluated themselves.

What predicts more favourable science attitudes?

The crucial factor is not general fake-news confidence, but teaching-related communication — especially for students.

Teachers

- FN_core ↔ science attitudes: not significant ($r = .033$)
- FN_teaching ↔ science attitudes: not significant ($r = -.016$)

Interpretation:

Teachers' own science attitudes appear largely independent of their self-reported fake-news evaluation and teaching practices.

Students

- FN_core ↔ global science attitude: not significant ($r = .052$)
- FN_teaching ↔ global science attitude: significant and negative ($r = -.191$, $p < .001$)

Interpretation:

Students who rated teacher communication and explicit skill-signalling more positively also expressed more favourable attitudes toward science.

Moderated regression

DV: science attitude index (higher = more negative)

Main effect of FN_teaching: $B = -0.119$, $p < .001$

Interaction FN_teaching × group: $B = -0.130$, $p = .047$

Meaning: the positive role of teacher communication is stronger for students than for teachers.

Bottom line

The instructional environment matters: students' attitudes toward science improve when verification skills and clear science communication are made explicit.

Interpretation: the “instructional visibility gap”

A practical explanation of the main pattern in the data

Teachers believe they communicate verification skills clearly; students do not experience that support equally strongly.

1. Teacher self-view

Teachers report relatively high confidence in communicating science clearly and highlighting relevant skills.

2. Student experience

Students are more reserved in their ratings of teachers’ explicit support for distinguishing verified facts from misinformation.

3. Practical consequence

What is not made explicit may remain invisible: verification routines need to be named, modelled, and practiced.

Interpretive takeaway

The challenge is not only literacy in principle, but visible pedagogy in practice.

Implications for school practice

What can schools do with these findings?

1

Make verification routines explicit

Model how to check sources, claims, and cues — not just whether something feels trustworthy.

2

Use comprehensible science communication

Explain research findings in an accessible language and connect them to real-life relevance.

3

Teach “prebunking” micro-practices

Briefly expose students to manipulation techniques before they encounter them online.

4

Align teacher intentions and student perceptions

Check whether students notice and understand the verification skills teachers think they are teaching.

Practical message

Information resilience is built not only through content, but also through visible classroom routines around evidence, source evaluation, and meaning-making.

Limitations and future directions

Important boundaries of interpretation

Cross-sectional design: the study identifies associations, not causal effects.

Measures are self-reported; perceived competence may differ from actual performance.

Two teaching/communication items are role-adapted, so group differences also reflect perspective.

Future research

- Include behavioural measures of discernment and verification
- Use longitudinal or experimental designs
- Test whether classroom interventions improve both misinformation resilience and attitudes toward science
- Explore whether the pattern transfers across national or institutional contexts

Take-home message

If students cannot see verification practices, they may not benefit from them.

Clear, explicit, and visible science communication in schools can strengthen students' information resilience and support more favourable attitudes toward science.

Thank you

Questions and discussion

Acknowledgement

This contribution was created within the oooZnanost!/oooScience! project funded by the EU Horizon Europe programme (Marie Skłodowska-Curie Grant Agreement No. 101162611).

