

EERQI Policy Brief No. 2

Acronym:	EERQI
Project full title:	European Educational Research Quality Indicators
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Duration:	01 April 2008 – 31 March 2011
Programme	7 th Framework Programme for Research in the Socio-Economic Sciences and Humanities Theme (SSH)
What is at stake	Current practices of assessing the quality of scientific production depend heavily on citation indexes that are calculated according to journal impact factors. This methodology does not allow to provide adequate coverage of European scientific publications. As a consequence, individual researchers, institutions but also complete subject domains, and even language areas in the European scientific landscape may be disadvantaged. The initiators of the EERQI project, as well as numerous researchers and evaluation bodies within the European Union, recognize the need to remedy the inadequacies of this situation.
Research objectives	The EERQI-project will provide a prototype framework for adjusting research quality indicators and methodologies to the European context. The prototype framework will rely on theoretical considerations concerning how quality and relevance in research publications can be determined. Building on the results of the investigations, the framework uses new technological possibilities provided by information technologies, including natural language processing tools. By carrying out contextual content analysis, the traditional, merely quantitative, indicators based on citation counts and ranking will be complemented by content-based quality indicators, which might inform evaluation processes. Besides experts in information technology the EERQI project involves scholars in the field of educational research as a pilot domain for such an endeavour. Educational research is in itself multidisciplinary, as it covers the whole range of methodologies used in Social Sciences and Humanities. Hence, the project offers the possibility of a resource which can be applied widely across these disciplines.

Work done

The following work has been done in the period from September 2008 to April 2009:

- The new server at Humboldt-University Berlin is fully operating now. The prototype search engine has been moved to the server at HU-Berlin.
- The entire content base is on the new server at HU-Berlin.
- The prototype search engine has been integrated into the German meta search engine www.metager.de to open the project and its results to a broader public.
- A surrogate layer which contains a "clean" version of raw data has been compiled (meta data have been completed gradually and were converted into the 15 fields of the Dublin Core meta data element set, PDF files have been unpacked from ZIP and RAR archives).
- The initial prototype of the EERQI search engine (Deliverable 1) has been developed further. Work has begun on the implementation of the multilingual feature for the query engine.
- The prototype search engine has already implemented the user interfaces in English, French, Swedish and German.
- Part of the EERQI search engine has been opened to the public and is available on the project website:
http://www.eerqi.eu/page/index_raw.jsp
- Initial tests on the content base with the preliminary query engine prototype have been carried out.
- The initial version of the "EERQI prototype framework of research quality indicators" (Deliverable 2) has been updated.
- An initial version of the Text Analysis Methodology has been written up (Deliverable 3). Work on indicator validation against peer review corpus has started.
- Legal framework for the EERQI aggregated content base has been established and the necessary documents have been prepared in close cooperation with the publishers.
- Work on methodologies for semantic/linguistic quality detection has been in progress. The next stage in this process – testing automatic extraction – has started.
- The process of the verification of the EERQI results by the scientific community has started.
- The EERQI Coordination team has been approached by Elsevier Publishers with information about the SCOPUS project and calls for possible cooperation.
- Project publicity/marketing materials (notebooks and pens with the EERQI logo) have been produced.
- Web DAV (Web Distributed Authoring and Versioning) has been set up and an "EERQI Web DAV user guide" has been distributed to the EERQI members.
- EERQI Workshop 1 Part 2 was carried out on 11th-12th September 2008 in Sweden. The documentation is available on the Wiki pages of the internal website.
- EERQI Workshop 1 Part 3 took place on 17th-18th March 2009 in Berlin. The documentation is available at <http://www.eerqi.eu/eerqievent/eerqi-workshop-part-3>, as well as on the Wiki.

- Three internal meetings of the technical partners have been carried out.

The project was presented to the public at the following events:

- Workshop on Quality Assessment, Trinity College, Dublin (Ingrid Gogolin, September 18th-20th, 2008)
- Meeting of Europeana WG2 about ORE, Århus (Thomas Severiens, September 19th, 2008)
- Fourth International Meeting of Education Research Associations, Singapore (Ingrid Gogolin, November 24th -25th, 2008)
- Quality Assessment in Open Access Publications, Workshop, German Research Foundation, Frankfurt/M. (Ingrid Gogolin, February 17th, 2009)
- International Repositories Workshop, Amsterdam (Stefan Gradmann, March 16th, 2009)
- First International Congress of Educational Research, Canakkale Onsekiz Mart University, Canakkale (Ingrid Gogolin, May 1st -3rd, 2009)

The following publications have been released by the project partners:

- David Bridges "The EERQI Project: Bibliometrics as a basis for research quality assessment" *In: Research intelligence. News from the British Educational Research Association 103: 9, 2008*
- Fredrik Åström and Ágnes Sándor: Models of Scholarly Communication and Citation Analysis. 12th International Conference on Scientometrics and Infometrics
- Ágnes Sándor and Angela Vorndran: Detecting key sentences for automatic assistance in peer reviewing research articles in educational sciences. Workshop on text and citation analysis for scholarly digital libraries, ACL- IJCNLP
- Eva Roos & Valérie Sauter: « Le projet européen EERQI : la qualité des recherches européennes en sciences de l'éducation en question », *Bulletin of the Swiss Academy of Humanities and Social Sciences, N° 4 : 54-55, 2008*

Emerging findings

An internal paper on the distinction between 'intrinsic' and 'extrinsic' indicators of quality in educational research texts has been produced, serving as a starting point for the development of the EERQI prototype framework of research quality indicators.

The following is a quote from this internal paper; we intend to illustrate the state of our reflections at the moment. Please do not quote from this paper.

Intrinsic and extrinsic indicators of quality

Intrinsic indicators of the quality of a research text are those which are integral to the quality of that text, which are constitutive of that quality, which are a condition of judging it to be of high quality. For example, *if* quality consists (among other things) in the coherence and consecutiveness of the argument, or in the

validity of the methods employed, then evidence of coherence, consecutiveness or validity would be intrinsic indicators of the quality of the writing.

Extrinsic indicators are those which do not inherently constitute elements of the quality of the piece, but which have a positive correlation with judgements based upon such elements. They predict (with a greater or lesser level of confidence) the quality which can independently be discerned in the text. We have talked about this in terms of a 'probabilistic' relation with quality. Thus, for example, it is sometimes suggested that the institutional affiliation of an author – the fact that he or she is located in a prestigious university, might bear a probabilistic relation with the quality of the text he or she has authored.

We agree that moment that an indicator is called intrinsic if it refers to a characteristic of a text that is assumed to contribute to the quality in one way or another (e.g. methodological rigour); it is called extrinsic if a characteristic tends to be associated with quality (e.g. published by a well esteemed publisher).

Why does the distinction matter?

There are at least two interconnected reasons.

First, the EERQI project is committed to developing assessment tools which contribute to the improvement of the quality of educational research. We know that assessment, especially where it is linked to a whole infrastructure of rewards for successful performance, is a powerful driver of people's behaviour. So it is important that we develop assessment tools which encourage behaviour which is focussed on what is genuinely constitutive of the quality of educational research (i.e. the sort of intrinsic characteristics illustrated above) rather than related to it in only highly contingent circumstances (the extrinsic characteristics). It does nothing to improve quality if everyone seeks to get published in a small selection of journals identified as having a probabilistic relation with quality (a decision which of course may well become self fulfilling in these circumstances) and it may even be damaging to the health of the subject. By contrast, if everyone seeks to demonstrate the validity of their research (because this is what is being assessed) this would be a behavioural effect which, by definition, we would welcome.

Secondly, there is the caution provided by 'Goodhart's Law', which was derived originally from analysis of monetary theory and practice (Goodhart 1983) and extended by Strathern (1997) to apply to audit in the British university system. In brief it predicts that when something shifts from being a *measure* to a *target*, then it ceases to be a measure. The trouble is that what start off as perhaps empirically grounded (extrinsic) indicators of quality rapidly become targets that people seek to achieve – and this distorts behaviour in a way which invalidates the original evidence of an association or at least the grounds for believing that the extrinsic indicator has a probabilistic relationship with intrinsic features of quality.

What are the indicators we are looking at?

These include the following. Note that we are not in this context

making any judgement as to whether these are good or bad indicators or whether they are more or less operational or whether they are more or less independent – simply whether we regard them as intrinsic or extrinsic as defined above. We also assume that the indicators - for the time being - can be treated as independent.

1.0 Name of author / authors

2.0 Institutional affiliation of author

2.1 University or institute

2.2 Department or centre within the university or institute

3.0 Presence of certain features of the text

3.1 Synopsis or abstract

3.2 References or bibliography

3.4 Footnotes

4.0 Place of publication

4.1 Peer reviewed (but not blind)

4.2 Blind peer reviewed

4.3 High impact factor

4.4 Well esteemed publisher / journal

4.5 'International' (cf national or regional) journal

5.0 Citation index

5.1 The citation impact of an article

5.2. The citation impact of an author, e.g. *h*-index, or the citation impact of a department/university, e.g. CPP/FCS, or the citation impact of a journal, e.g. JIF

6.0 Download

7.0 Clicks

8.0 Evidence of rigour (e.g. clear and consecutive argument)

9.0 Originality (e.g. by use of innovative methodology)

10.0 Significance (demonstrated by e.g. persuasive claims to the implications of the work for policy)

11.0 Integrity (demonstrated e.g. by evidence of proper respect for the rights of research participants)

12.0 Style (demonstrated by e.g. by the readability of the ext)

13.0 Semantic features of the text

References

Goodhart, C.A.E. (1983). *Monetary Theory and Practice*, London & New York, Palgrave Macmillan.

Strategic Forum for Research in Education (2008). *Quality and capacity in UK education research*. Report of the first SFRE meeting, 16th and 17th October, Harrogate.

Strathern, M. (1997). 'Improving ratings: Audit in the British University System', *European Review*, 5, 305-321.

There are two EERQI working groups which are continuing work on defining the indicators of quality in educational research texts. They will present interim findings of their work by the End of September 2009.

Further information and documents

See the Project website:

www.eerqi.eu