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# **European Educational Research Quality Indicators (EERQI)**

**(Project 217549)**

**FP7 Collaborative Project**

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**SEVENTH FRAMEWORK PROGRAMME  
THEME [FP7 SSH 8.6.4.1]**

**Grant agreement for: <Collaborative Projects>**

***Annex I - "Description of Work"***

Project acronym: ***EERQI***

Project full title: European Educational Research Quality Indicators

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## A.2. Project summary form

# A1:

## Our project

Project Number :	217549	Project Acronym :	EERQI
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### ONE FORM PER PROJECT

#### GENERAL INFORMATION

Project title :	European Educational Research Quality Indicators		
Starting date :	01/01/2008		
Duration in months :	36		
Call (part) identifier :	FP7-SSH-2007-1		
Activity code(s) most relevant to your topic :	SSH-2007-6.4-01: Ex post and ex ante impact analysis		
Free keywords :	research quality, educational research, scientific quality assessment, impact factors, informetrics, bibliometrics, quality indicators, scientific publications		

#### Abstract (max. 2000 char.)

EERQI will build an advanced framework for relevance assessment of research documents in educational research based on formal mechanisms including citation analysis and linking, semantically-based full text analysis and co-occurrence of information items in open access and non-open access repositories, as well as in online journal articles, books, and other freely available scholarly publications. Educational research is chosen as an example of society- and politically-embedded research fields within the humanities and social sciences. The resulting prototype framework of quality indicators and methods will provide the base toolset for a European information service for the observation and evaluation of educational research publications. The toolset can be applied to other social sciences and humanities fields. Complementary to traditional measurements of scientific quality (citation analysis, journal impact factor), new methods and indicators of quality assessment will be tested (usage assessments, versions available, other statistical methods, as well as by means of advanced, semantics-based detection of linking, correlations and referral contexts). The project will also address the complex role of the diversity of scientific languages in Europe. Different mother tongues are a barrier to the international flow of communication while also being fundamental to expressing complex scientific ideas which are often embedded in a certain cultural background. Thus the project will also address the challenge of effectively dealing with multilingualism and specific 'cultural heritage' of research traditions in the European countries. EERQI results will also raise visibility and competitiveness of European researchers and contribute to new policy bases for funding, hiring, and evaluation decisions in European academic and research institutions.

## A.3. List of beneficiaries

## List of Beneficiaries

Beneficiary Number *	Beneficiary name	Beneficiary short name	Country	Date enter project**	Date exit project**
1(coordinator)	Prof. Dr. Ingrid Gogolin, Dr. Diann Pelz-Rusch, University of Hamburg, Department of Comparative and Multicultural Education	UHambDE	DE	2007	
2	Prof. Dr. Ingrid Gogolin, President, European Educational Research Association	EERA	DE	2007	
3	Mr. Jeremy Hoad, Prof. Dr. David Bridges, British Educational Research Association	BERA	UK	2007	
4	Prof. Dr. Eberhard R. Hilf, Institute for Science Networking Oldenburg GmbH at the Carl-von-Ossietzky University	ISN	DE	2007	
5	Dr. Ágnes Sandor, Dr. Claude Roux, Dr. Frédérique Segond, Xerox SAS, Xerox Research Centre Europe (XRCE), Grenoble	XEROX	FR	2007	
6	Dr. Wolfgang Sander-Beuermann, Regional Computing Centre for Lower Saxony of the Leibniz University of Hannover	RRZN	DE	2007	
7	Prof. Dr. Marc Rittberger, Alexander Botte, German Institute for International Educational Research	DIPF	DE	2007	
8	Prof. Dr. Wim Jochems,	ESOE (TU/e)	NL	2007	

	Eindhoven School of Education, Eindhoven University of Technology				
9	Prof. Dr. Ton Mooij, ITS, Radboud University	Radboud-NL	NL	2007	
10	Mr. Graham Hobbs, Taylor and Francis Publishers	TandF	UK	2007	
11	Mr. Roger Osborn-King, Symposium Publishers	Symposium	UK	2007	
12	Dr. Reinald Klockenbusch, VS- Verlag	VS-Verlag	DE	2007	
13	Prof. Dr. Lisbeth Lundahl, Umeå University, Faculty of Teacher Education	UmU	SE	2007	
14	European Association for Research on Learning and Instruction (EARLI), Prof. Dr. Roger Säljö, President	EARLI	BE	2007	
15	Matthis Behrens, Director, Institut de Recherche et de Documentation Pédagogique	IRDp	CH	2007	
16	Dr. Fredrik Åström, University Libraries, Lund University	LUB-LU	SE	2007	
17	Ms. Rebecca Bailey, Wiley- Blackwell Publishing	Blackwell	UK	2007	
18	Schweizerische Gesellschaft für Bildungsforschung– Swiss Society for Research in Education (SSRE), Matthis Behrens, President	SSRE	CH	2007	
19	Dr. Stefan Gradmann, Humboldt- University of Berlin, Institute for Library and Information Science	HU-Berlin	DE	2008	

## PART B: Description of Work

### B1. Concept and objectives, progress beyond state-of-the-art, S/T methodology and work plan

#### B 1.1 Concept and project objective(s)

The focus of this proposed project, European Educational Research Quality Indicators (EERQI), is a collaborative, evidence-based effort to develop new indicators and methodologies which can be used to determine research quality of scientific publications and, in turn, of research results and their means of dissemination. This affects not only the impacts of research efforts and scientific publications, but also the policies of research funding bodies and assessment boards, national higher education and research councils and at the European level, the policies and programmes on scientific advancement and research orientation.

##### B.1.1.1 Definition of Research Quality Indicators

For purposes of this project, we use the following definition of research quality as applied to scientific publications: research quality represents the level of intellectual contribution to the respective field of science. Criteria and indicators used thus far to measure research quality include

- type of publication (research report, theoretical discourse, other),
- single or multiple authorship,
- inclusion of data visualisation (graphs, diagrams),
- peer-review status,
- acceptance/rejection rate for journal or monograph series in which publication is included,
- citation frequency for the publication (which in turn is then used to determine citation frequency of the author),
- journal impact factor (referring to the journal in which an article was published and its rank within its discipline according to the *Journal Citation Report*),
- usage metrics (primarily downloading statistics for a certain item on a certain web-based repository),
- indexed in major bibliographic sources for the respective discipline, etc.<sup>1</sup>

Other less formally measurable indicators include policy impact (use by institutions and governments sometimes as commissioned reports or drawn into assessment procedures and policy decision processes).

A very exhaustive data model for representing the basic parameters interrelated in research information systems as well as an OWL ontology for expressing related concepts is being proposed by EuroCRIS as part of the CERIF standard.<sup>2</sup>

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<sup>1</sup> Lee, Kirby P.; Schotland, Marieka; Bacchetti, Peter; Bero, Lisa A. (2002): Association of Journal Quality Indicators with Methodological Quality of Clinical Research Articles. *JAMA* (2002) 287: 2805-2808; Butler, Linda (2006); Bibliometrics and Research Performance Framework Indicators Forum (Presentation with Notes) University of New South Wales, 1 May 2006. <http://www.caul.edu.au/meetings/rqf2006performanceindicators.pdf>;

<sup>2</sup> Cf. <http://www.eurocris.org:8080/lenya/euroCRIS/live/index.html>. Development of CERIF was funded by the EC and originally part of the CORDIS information platform.

### **B. 1.1.2. Motivation for Undertaking this Project**

Traditional methods of assessing research quality of scientific publications have depended heavily on ranking methods according to citation frequency and journal impact factors, both of which are based on an instrument which does not reflect adequate coverage of European scientific publications. Hence, if European science policy makers, journal editors, hiring bodies and other evaluation bodies and/or institutions rely on this type of evaluation method, individual researchers, institutions, certain subject domains, and even complete language areas are disadvantaged, as they are not – or only sparsely – included in the scope of this instrument.

The initiators of the EERQI project, as well as many other scientists and evaluation bodies in the European Union region, recognize the need to remedy the inadequacies of this situation by providing such a prototype framework for expanding these research quality indicators. The EERQI project proposes an evidence-based prototype framework that relies on new knowledge about how quality and relevance in research publications can be determined using new indicators, as well as on new technological possibilities provided by natural language processing tools for content analysis and extraction and for text mining of digitally-available scientific documents. Thus, taking advantage of contextual relationships, the traditional quantitative indicators based on citation counts and ranking will be complemented by quality indicators in a framework model which can be used to support all aspects of scientific policy.

The EERQI project will bring together researchers in the target field of educational research as an exemplary field for such an endeavour. It will suggest and discuss the new research indicators and methodologies (analytic techniques) for obtaining such fundamental evaluation criteria. Moreover it will provide relevant proofs of concept for testing these new indicators and methodologies. Testing this set of new indicators will take place on a domain-centred content base which consists of an aggregated set of subject-relevant documents contributed by the participating publishers and other publishers in negotiation with the project team, as well as subject-relevant open access and other Internet-based resources harvested by the EERQI search engine to be developed within the project. Testing will also take place using innovative query modules integrated into the search engine and refined through reiterative auto-learning processes. Hence, the search engine reprograms itself to recognize relevant documents to the respective query parameters.

The overall goals of the prototype framework proposed in this project are to reinforce and enhance the competitiveness of European scientists and scientific research and develop new forms of assessing the effectiveness and quality of research within the European community with regard to scientific publication. The results will be presented to the scientific community for verification, in the case of EERQI to the educational research societies, to experts in the field and to representatives of the respective research funding, promoting and evaluation bodies at the national and European level. These new indicators and the prototype framework will be also tested for transferability to other socio-economic sciences and humanities. Attention will be paid to the ex post evaluation of the project, as well as the ex ante assessment of the contribution that the new framework can make to public policy development and decision-making and to more effective and efficient public sector interventions.

The prototype framework consists of 1) a set of new indicators of research quality to be applied to scientific publications, 2) a specially developed search and query engine with parameters which can be adjusted to the domain being investigated, and 3) a framework to establish a federated, aggregated content base for the target domain through the use of the search and query engine. To ensure sustainability of such a prototype framework, a separate work package in the project will develop scenarios and possible business models for creating the legal, technical and organizational aspects for successful acceptance and exploitation of such new research indicators and methodologies which will then be contained in the EERQI Sustainability Plan.

The processes involved in this project will contribute to improved knowledge of research quality and in turn to better informed stakeholders in higher education and research institutions, national science and research councils, etc., as well as policy-makers and other relevant stakeholders. This will also



contribute to the European Research Area by providing new knowledge on how research quality is viewed. Hence, the results of this project can contribute significantly to policy development and evidence-based policy decisions within Europe, as well as to support decisions on research funding and national assessment of institutional effectiveness, scientific productivity, and visibility

In the context of current trends towards globalisation, the European scientific community not only needs to open its borders to facilitate closer cooperation with regard to acceptance of research quality indicators and methodologies, but also to building a greater unifying identity as a competitive, competent partner – and leader – in promoting excellence in research and scientific advancement. By nature of this project, the end result of the research proposed here can be used to produce greater cohesion among research communities across Europe. In addition, it will facilitate greater knowledge of where and which scientists are working in certain research areas which can promote greater collaboration, as well as heighten the competitive spirit within and without the European Union borders. This will also lead to increased possibilities for acceptance and integration of evidence-based research quality standards in such evaluation processes and, in turn, promote the chances for mobility within the academic community in the various European countries.

A potentially significant spin-off factor from the research on quality indicators in this project is that research funding bodies, higher education and research councils, science and research foundations, academies for the advancement of the sciences and large research societies will be able to employ such indicators not only to measure the impact of their research quality, but also of the impact of their funding programmes and policies. The “reception” or impact of the funded research in Europe can be measured more accurately, but also the semantic/linguistic analytic techniques proposed in this project can be used to determine research trends, innovative areas for future programme consideration and early identification of topics where potentially controversial issues in research and science will require timely and carefully deliberated policy decisions.

The **mission** of the EERQI project is to improve the current situation of research quality indicators within the European context in the social sciences and humanities using the example of the field of educational research and by developing new research quality indicators and more comprehensive tools and methodologies. These new indicators, tools and methodologies will reflect the pan-European research environment more adequately, as well as the document-type variation element (book, book chapter, journal article, etc.) in the social sciences and humanities, than previous research quality indicator instruments have done.

The EERQI project will produce the following tools and methodologies:

- A federated, aggregated content base formed by drawing on available and accessible datasets, repositories, publisher contributions and databases in the field of educational research, augmenting these by harvesting the Internet for institutional, individual and association home pages, links and following references extrapolated from citations, bibliographies, etc.
- A harvesting protocol/search engine for identifying relevant scientific documents in electronic repositories with the possibility of harvesting according to a corpus of subject terms and/or on the basis of institutional affiliation of the author(s);
- Automated evaluation procedures and modelling frameworks based on the suggested new indicators of research quality which can be applied to the aggregated content base compiled by the harvesting protocol and which can provide statistical evidence on semantic/linguistic analyses of full texts, type of texts, references, types and language of references, etc., as well as correlations between author information, institution, content, references, environment of published item (journal, country, context, etc.) and other newly defined research quality indicators. Such modelling frameworks will support ex post and ex ante quantitative and qualitative analysis by investigating context, correlations between indicators, semantic and linguistic indicators, etc.
- An assessment of how such indicators can be used to improve research quality evaluation in the field of educational research (as a case study for other social sciences and humanities);

- Demonstration of transferability of these methodologies to another area of the social sciences and humanities with subsequent “Guidelines for transferring these indicators and methodologies to other areas.”
- Finally, input not only from the project research results but also from the debate among the major stakeholders (publishers, scientists, research funding bodies, etc.) will be used to propose a sustainability plan integrating the project results into the scientific publishing environment. This will consist of prototype framework containing organisational models and possible business models.

The benefits of this project will achieve the following effects:

- Enhanced visibility and competitiveness of the European Research Area and of European researchers,
- European publishers should be very interested in cooperating with us as this project will provide the mechanisms for relatively complete coverage of European scientific research documentation available in a certain field. If the publishers’ servers are made available to these instruments, the project would be to their advantage and their products would gain greater visibility and become more competitive in the scientific world.

The visibility of education and learning as a policy space and its emergence as a significant area of policy is not matched by useful analyses of its operation. This is a problem for educational researchers working across Europe. In practical terms, policy in education and educational research is no longer the sole domain of the nation-state, but has become a key feature of a europeanizing process. “New Learning” is central to the knowledge economy, allowing education to be compared, promoted, researched and improved in its European role as a key part of the knowledge economy and as a distinctive element in the particular mission of europeanization within globalization.

The consequence of this shift in the mission, role and scope of education is that, within Europe, a new policy area has opened to manage education and learning. The distinctive nature of this policy space is fluid, heterogeneous and polymorphic, and at the same time obvious and transparent. Yet it is also fuzzy. It lacks distinctive institutions, visible sites and key players in the way the nation-state education policy area had developed over time.

The importance of this proposal, and one of the main reasons why EERA is promoting it, is that the contribution of European education research is hampered by the way it is organized in Europe. Distinctive and fruitful traditions of work are locked into national intellectual resources and it is a slow process of enabling them to move across borders. Barriers to development are growing as the research quality agenda in universities relies upon the commercial ISI/Thomson Index (SSCI) as an indicator of international quality and as a driver of university hiring and promotions. SSCI does not systematically include non-Anglophone research in the social sciences and humanities.

This problematic situation applies to most of the social sciences and humanities disciplines: they share a lack of visibility in terms of impact evaluation which may well become critical with such evaluation methodologies being more and more critical for hiring personnel and implementing funding schemes.

As an alternative, EERQI seeks to build an advanced framework for relevance assessment of research documents in the field of educational research based on formal mechanisms including analysis of references, citation linking, semantically-based full text analysis and co-occurrence of information items in open access and non-open access repositories, as well as in full text available journal articles, books, and other freely available scholarly publications. Since our sources include open access documents that are not necessarily reviewed before publication, and since the number of such research publications is growing, it has become necessary to elaborate novel methods of quality assessment. Thus, on the one hand, the project will explore the usefulness of criteria-based analysis of publication standards and different forms of peer review and quality evaluation. These traditional forms of quality assessment are focused on the publication process and the reputation of editorial institutions and boards. On the other hand and in complement to these, methods of assessing usage of online documents will also be tested as elements of a multi-attributive analysis of quality. This will be done using both known statistical methods such as counting downloads, log-file-analysis or linking statistics as well as by means of advanced, semantics based detection of linking and referral contexts. The

project will also address the complex role of the diversity of scientific languages in Europe. On the one hand, different mother tongues are a barrier to the international flow of communication, while on the other hand they are an adequate and necessary means to express complex scientific ideas which are often embedded in a certain cultural background.

From this perspective, educational research has been chosen as one particular example of socially- and politically-embedded research fields within the broader area of the humanities and social sciences. Within a three-year perspective, the project aims at developing a prototype of a European information service framework for the observation and evaluation of educational research publications. The resulting prototype framework of quality indicators and methods will provide the base toolset for a European information service for the observation and evaluation of educational research publications. The toolset can be applied to other social sciences and humanities fields. This product will be developed both on the basis of traditional quality measurement criteria (such as citation analyses) and suggestions for innovative criteria which can encompass wider scope than the traditional ones. In order to achieve these goals the project will investigate innovative methods of semantic analysis and comparisons, including the challenge of effectively dealing with multilingualism and the specific "cultural heritage" of research traditions in the European countries. It will also employ search engine technology based on linguistic and ontological structuring. EERQI will cooperate with existing non-field specific projects on a national scale (Germany: DINI-network), and is very interested in participating in international non-field specific activities such as the Euroscience METRICS Project.

One of the main tasks of EERQI will be to investigate the necessary effort and intensity of work to achieve a comprehensive overview of the research in an exemplary field of the social sciences and the humanities where book publications are as important as journal publications.

Similarly, the element of retaining the individual country language for certain subject-specific terminology which simply cannot be adequately translated or equated to other terms, will be investigated both in terms of "search & retrieve" tools and methods (including robots) and in terms of immediate machine-processed translation. Such an endeavor requires a large, representative base of pan-European bibliographic and citation data in a certain subject field. Since existing tools reference primarily English-language and U.S.-based publishing in these fields, EERQI proposes a cooperation in order to combine existing English and non-English-language bibliographic metadata in the field of educational research (i.e., data from FIS-Bildung, CNRP, European publishers of educational research journals and books, publications of European educational research societies, etc.), including metadata from other national databases even if the stakeholders are not members of the consortium. PERINE database references will be used to research documents. Using additional metadata obtained through cooperation with European educational research publishers, national educational research societies and institutes, a comprehensive metadata and content base will be built upon which the EERQI prototype framework new quality indicators and evaluation methods can be tested. To accomplish this, bibliographic, full text, citation, and usage statistics from the participating publishers will be combined with harvested data from federated open access resources for determining and testing new methods of relevance assessment taking into consideration European research needs.

Various sources (publications on citation analysis<sup>3</sup>, relevance assessment and ranking, etc.) show that considerable differences in interpretation of the indicators and related metrics may lead to confusion concerning true research quality. The EERQI project will analyze the quality criteria in the field of educational research in European countries based on a survey of European educational research learned societies, research institutions, and publishers. Educational research can be seen as representative of the majority of the social sciences and humanities within the European context and probably has the largest number of methodological links to the other SSH disciplines.

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<sup>3</sup> A long tradition of critics can be marked by: Boor, R.M.: The citation impact factor: Another dubious index of journal quality. *American Psychologist*, 37/1982, 975-977; Moed, H.F. (2005): *Citation Analysis in Research Evaluation*, Springer Verlag, Heidelberg 2005. 347 pp. With focus on the special discrimination of social sciences see: Hicks, Diana (2004): The Four Literatures of Social Science. In: *Handbook of Quantitative Science and Technology Research*, ed. Henk Moed, Kluwer Academic; Philippe, Jeannine, and Devillard, Joëlle (2005): Implementing relevant disciplinary evaluations in the social sciences. National vs. International interactions in scientific communities. *Scientometrics*, 62(1), 121-144.

The project differs from others in that it goes beyond methods which use only one concept of quality assessment – e.g. citation analysis or usage statistics, one language, or research-field-unspecific. Instead, this project will develop and apply a multi-attributive analysis of quality and relevance for publications in educational sciences. A multi-attributive measurement of relevance puts every attribute in its perspective and leaves it a limited impact: the resulting indicator is more balanced. Two methodological paradigms can be used in order to determine relevance attributes. One is to measure or rate well-defined characteristics of the specific publication itself, as well as of the way it is used, and thus to consider its measurable impact within a given scholarly context. The other one is to measure characteristics of the editorial process, i.e., to base the measurement on the affiliation of this specific publication to a certain journal, publisher or editor.

The latter indicators are more or less based on peer-review processes or more precisely the reputation of the publishers.

There is also a new challenge in the context of internationalization of science<sup>2</sup> which raises questions with respect to the “packaging” of publications: are there English-language abstracts or keywords for foreign language works? Is additional standardized metadata available? These indicators are mainly usable as corrective or surrogate measurements of specific documents themselves. The EERQI project will focus on assessment procedures for specific documents, preferably on the basis of online availability.

This is a very complex task since the number of research documents available online is increasing. It will be necessary to provide various characteristics of documents, like their type/format, availability of versions, number of repositories referencing them, usage processes (such as downloads, accesses, online orders)<sup>3</sup>, as well as the correlations of citations between printed and online versions. As a consequence, content, context and other means of quality assessment will be investigated including also author- and language-specific correlations, correlations between the country of the origin of the author and the country of publication, the nature of citations, internationality, etc.

### ***B.1.2. Progress beyond the state of the art***

#### **The current situation revisited**

At present, European research in the social sciences and the humanities is underrepresented in existing citation databases and other evaluation instruments. Figure 1 shows the imbalance of the *Social Sciences Citation Index (SSCI)* and *Journal Citation Report (JCR)* for European scholarship:

Some facts and data about the representation of European educational research in the Social Science Citation Index (Source: *Journal Citation Reports* (educational subdisciplines), 2006):

1. The first basis of our information is the *Journal Citation Report (JCR)*, Social Sciences Edition with 1.700 journals in total, i.e., for all disciplines and all countries.

The sub-disciplinary selection of “education”, “special education”, “psychology, educational” comprises only 153 journals. Only seven journals are not exclusively English language journals: three are multilingual, four are in German, and one in Russian. All the other journals – regardless of the country they are from – are English language journals.

If you look at the countries where these 153 journals originate from, 66% are U.S. journals, 24% are British, leaving 10 % from non-Anglo-American countries.

Country	Number of journals
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<sup>2</sup> European Commission: Study on the economic and technical evolution of the scientific publication markets in Europe. Final Report – January 2006, [http://ec.europa.eu/research/science-society/pdf/scientific-publication-study\\_en.pdf](http://ec.europa.eu/research/science-society/pdf/scientific-publication-study_en.pdf)

<sup>3</sup> EERQI will integrate variables from the COUNTER Project as much as possible.

USA	101
England	37
Netherlands	6
Germany	4
Australia	1
China	1
New Zealand	1
Portugal	1
South Africa	1
Total	153

**Figure 1 :Number of European educational research journals currently included in the *Social Sciences Citation Index (SSCI)* and *Journal Citation Report (JCR)***

There is limited activity and minimal interest on the part of the database providers, such as the Institute of Scientific Information which produces these tools, to include more European research or integrate tools which allow searching in a multiple language – or simply non-English – environment. Hence, evaluation assessment of research quality and publishing production even in European countries relies heavily on lop-sided criteria represented in these citation databases which neglect large areas of European research.<sup>4</sup>

Furthermore, existing citation analysis tools do not give due emphasis to book publications (and/or parts of book publications) which are the primary publication channel in most of the social sciences and humanities (see Figure 2). This is a difficult set of publications to follow and to include in a reference database.

On the basis of a topical search for “educational research” in the *SSCI*, you can show that

- typical European topics of educational research – such as the international recognition or accreditation of degrees – are not adequately represented
- most publications which are quoted in educational science articles of the *SSCI* are books, book articles, and articles in non-US journals.

This leads to the result that most of the citations refer to publications and authors which are not (adequately) represented in the *SSCI* and which have consequently no impact factor.

**Figure 2:** Representation of European educational research in SSCI

Although many European national databases include references to online documents in their bibliographic databases, to date no European-wide resource has drawn together references from research covered in both publisher databases and open access repositories or available as individual self-archived documents on the Internet. Citations in research publications included in open access repositories may or may not be included in the statistical analysis using existing evaluation tools, such

<sup>4</sup> Moed, H.F. (2005), *Citation Analysis in Research Evaluation*. Springer Verlag, Dordrecht, Heidelberg. 347 pp.

as the ISI products. Hence, the scope of coverage of European research is less than optimal. To remedy this, as well as to facilitate giving greater coverage of specifically European and multi-language materials not otherwise included in such tools, the EERQI Project will build a prototype federated content base integrating all types of scientific publications in the chosen target field. Despite the danger of a certain amount of redundancy due to duplication and multiple versions of the same item – which will be treated within the technical analysis of the corpus of relevant documents, this prototype content base will provide an adequate test bed to examine the amalgamation status of different publication cultures. Some of the questions which will be investigated include: Do traditionally published printed documents refer to online publications? Does online publishing enhance international perception? Can different types of citations be identified and their context used for extended quality assessment?

The EERQI project will provide elements for answering these and other questions concerning new knowledge on research quality. The focus on one scientific field (education science) will allow development of sophisticated, semantically-powerful tools and expose the specificities of field-specific publication culture. One last aspect of the current state of the art must also be noted: a variety of institutions and projects are focusing on usage-based metrics as a means to identifying research quality, especially in the electronic, open access and non-restricted access environment of the Internet. However, such usage-based metrics do not provide full coverage of scientific publication – and in that way are just as limited as the traditional tools. Furthermore, downloading statistics, log-file-analysis, etc., do not necessarily qualify as indication of the user's reception of the read or downloaded item. This indicates merely "interest" but does not give clues to what motivated this interest, nor how the information attained was used further. Hence, despite many sophisticated modelling frameworks for usage-based metrics by Van der Sampel, Bollen, Carr, Brody and others,<sup>5</sup> the scientists and learned societies initiating this project see the urgent need for further evidence-based criteria to determine new indicators of research quality which can in part be extracted from current research quality practices and procedures, as well as be extrapolated through technical analysis models using content extraction, semantic and linguistic analytics, etc.

### **EERQI's contribution beyond the state of the art**

The above-mentioned factors which will be investigated in the EERQI project in the identification and application of new research quality indicators will bring the scientific community a huge step farther in the fields of informetrics, bibliometrics and automated textual analysis.

EERQI's contribution to the advancement of research in this field is manifold. This consists of 1) the unique combination of partners in the project, 2) the means proposed to maintain a balance of interests among the stakeholders, 3) the collaboration involved in producing both the content base (i.e., testing environment) and the analytic technology for the project, 4) inclusion of the European need to respect its multilingual community and meeting the ensuing demands multilingualism places on such research, 5) integration and further development of cutting edge technology in the area of search and query engine development, content analysis, and semantic/linguistic analysis, and finally, 6) the commitment of the partners to present results which can influence European higher education, science and research policies and programmes (EERQI Sustainability Plan).

The creation of a European aggregated content base as test bed for this project represents a major collaborative effort among researchers, publishers, computer science specialists, national bibliographic and documentation centers for educational research, and evaluation groups (see below). It also

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<sup>5</sup> Moed, H. F. (2005) Statistical Relationships Between Downloads and Citations at the Level of Individual Documents Within a Single Journal, *Journal of the American Society for Information Science and Technology*, 56(10): 1088-1097; Brody, Tim (2004) [Citation Analysis in the Open Access World](http://eprints.ecs.soton.ac.uk/10000/01/tim_oa.pdf) [http://eprints.ecs.soton.ac.uk/10000/01/tim\\_oa.pdf](http://eprints.ecs.soton.ac.uk/10000/01/tim_oa.pdf); Park, Han Woo, and Thelwell, Mike (2003): Hyperlink Analyses of the World Wide Web: A Review in: *Journal of Computer-Mediated Communication* 8 (4): <http://jcmc.indiana.edu/vol8/issue4/park.html>; Brody, T., Harnad, S. and Carr, L. (2006) [Earlier Web Usage Statistics as Predictors of Later Citation Impact](#). *Journal of the American Association for Information Science and Technology (JASIST)* 57(8): 1060-1072.

manifests the first step in the support and management of European research resources in education. Because previous efforts to define research quality on the basis of ranking according to citation frequency and impact factors, certain cultural attitudes among scientists must be considered, as well as the highly skewed effects produced by traditional research quality assessment techniques across the research community. Thus it is very important that this project includes its own "Observatory" in an open, complete, transparent and scientific community driven and controlled way. This is the active role which the professional researchers of EERA will play in the project and which will be paramount and exemplary for other disciplines within the European context. This "Observatory" will be enacted in the project workshops to give input and feedback on the proposed new indicators and procedures (WP 4), as well as to observe and verify the results of application of the new indicators and methodologies on the test bed content base (WP 10). Furthermore, this group will be able to determine unique domain-specific characteristics which may influence the content and testing of possible new indicators and research assessment methodologies. To ensure continuity between the two Work Packages, and throughout the testing phase between the additionally involved Work Packages 6, 8 and 9, the Project Steering Committee (consisting of the project coordinator who is an educational researcher, the technical coordinator with experience in producing and evaluating scholarly publications, and the project manager who also has a background in education, research in scholarly publications and technological aspects, will coordinate and bring together all the Project activities belonging to this "Observatory". They will mediate the technological aspects of the testing procedures and methodology, the needs and requirements of the researchers and learned societies, as well as those of the outside evaluation boards and funding agencies, guiding these into the verification process. The verification process will involve both EERQI participants and outside experts. The Steering Committee will focus the Project efforts and coordinate all activities of the testing/verification phase in a harmonious balance. while at the same time stimulate the innovation which is necessary to determine new and viable indicators.

The inclusion of book items -- where electronically available -- will enhance knowledge about the authors' choice between formats and currency of publication, the intensity devoted to treatment of a topic, and other quality aspects which will emerge during the research.<sup>6</sup> The content base will be based on the contributing publishers' data back to 1980 (where digitized records and full texts exist). The integration of metadata from national bibliographic databases in the respective countries through the Perine project will assist in various correlation indicators testing. In addition it is hoped that this project will stimulate digitization of various print items which are considered classics in the field of educational research, as well as of the previously non-digitized respective learned society publications. National information centers in the respective countries are assisting in identifying key resources and the project will also examine the individual indexing instruments and methodology with regard to the corpus of educational research materials in the chosen target area.

The active participation of European publishers in the field of educational research enhances the value of this project and its results. One of their motivating factors for being willing to make their electronic texts and metadata available to the EERQI project is the political impact felt by European publishers of social sciences and humanities journals and books. A competitive product for the European market and context to offset inadequate coverage and indicators for the European context in the U.S.-based *SSCI* is desired by both European publishers and European scientists through their learned societies. The publishers expect the scientific community to accomplish this, but since achieving such a goal requires a great deal of technical expertise, extensive collaboration efforts to attain comprehensive coverage of each field, and also in taking into consideration the various legal aspects, the first step towards such a collaboration framework lies in the results of the EERQI project. The publishers have a vested interest in promoting their products and the EERQI project will also produce results which should strengthen the role of the publishers while also providing a non-partisan framework for research quality assessment.

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<sup>6</sup> See also Carr, L., Hitchcock, S., Oppenheim, C., McDonald, J. W., Champion, T. and Harnad, S. (2006) *Extending journal-based research impact assessment to book-based disciplines*. <http://eprints.ecs.soton.ac.uk/12725/01/bookcite.htm>

Thus, the EERQI project has a well-balanced consortium which will contribute electronic content, technical expertise, and expertise in research quality within the target field. Such a mixture of key European stakeholders provides several significant opportunities:

- The participating publishers will provide metadata and full texts of relevant electronic documents for the purposes and duration of the project with the agreement that the full texts will not be disclosed to any third parties and will be used solely for the purposes delineated within the project. In Work Package 7 (Legal Aspects and Intellectual Property Rights), an agreement will be set up with the participating publishers. The participating publishers will assist in gaining contact with and encouraging additional commercial holders of electronic content relevant to contribute to the aggregated content base. Negotiations with additional copyright holders (including those with publishers of educational research materials who are not members of the EERQI Consortium) will also be carried out at this point (in context of WP 1 and WP 7). Such publishers who may wish to participate in the project or from whom we wish to obtain the relevant electronic data for the content base will be approached to determine whether they would make this data available for research purposes in the project for free, for a token project license fee (if already being licensed to one of the participating information centers) or at a reduced rate for research purposes only (not for public or academic use). There will be no discrimination between the publishers who are members of the Consortium and those who are not. This applies both to the accumulation of data, as well as to the publishers' participation in the development of a sustainability plan (see below).
- Prior to the project, Google Scholar and Google Book are willing to cooperate with the European Educational Research Associations and key European publishers of educational research materials to expand inclusion of such works in their database by digitizing previously print-only items relevant to the project and to digitize non-electronic back issues of relevant online journals and making them and their metadata available in open access on their platform. This will help maximize the full text content base for the field and thus assure a representative corpus of items in the field of educational research for the purposes of analysis within this project. There is no cost to the project for this and contracts between Google Scholar and Google Book are made directly with the participating publishers, organizations and institutions. These documents will then be provided on the Google Scholar and Google Book platforms with links from author, institutional and association home pages. Hence, Google Scholar and Google Book, while providing this service in advance of this project, are not members of the EERQI Consortium.
- The *Regional Computing Centre for Lower Saxony (RRZN)* at the Leibniz University of Hanover, together with the *Institute for Scientific Networking* at the Carl-von-Ossietzky University of Oldenburg, will provide the harvesting engineering for gathering the relevant documents from the Internet including OAI compatible and other online open access repositories, author and educational research society home pages, institutional home pages, etc. and including import from mediators such as Google Scholar, Google Book, CiteSeer, etc. The RRZN together with the Xerox Research Centre Europe (XRCE) will also provide certain text conversion instruments for such documents.
- The Xerox Research Centre Europe (XEROX XRCE) will provide the technological mechanisms and expertise for semantic/ linguistic text analysis and extraction of metadata needed for testing and applying the proposed indicators and correlations, and also the technological mechanisms for multilingual analysis in the target languages of the project.

This unique combination of non-profit- and for-profit-organizations will provide the opportunity to openly explore the ambivalent aspects of public-private partnerships among the scientific community, commercial publishers, learned societies, as well as publishers, information brokers, such as Google Scholar and Google Book, and SMEs, as well as the research laboratory of a multi-interested large company (Xerox) involved in new technologies. At the same time, the inclusion of an independent non-profit organization in the project ensures the fair balance of the interests of all partners (RRZN).



Since the interests of the commercial players only partially converge with the scientific community's motivation, the potential danger of feeding a monopolistic tendency will be counteracted in the project by continuous monitoring and balancing of the various interests of the stakeholders. Especially the involvement of the participating publishers in not only content provision, but in the active development and discussion of sustainability factors and the legal framework for such a development will be imperative to the success of the project. The commitment of the participating publishers to the goals of this project and to the debate on and investigation of new possibilities and a new organizational framework for establishing new European research quality indicators and methodologies indicates that this project, in its capabilities to integrate the interests of the major stakeholders, can achieve its ambitious goals.

Furthermore, the project provides the unique opportunity to examine current and innovative evaluation criteria used in the various participating countries for assessing "quality" of educational research. These criteria will be gathered and reviewed within the European context through meetings of experts in the field and examined for their transferral quality into other areas of the social sciences and humanities. These meetings will be organized by EERA in conjunction with a second European educational research organisation (EARLI), the national educational research organizations and the participating educational research experts.

### **Multilingualism:**

The focal point of the project is on the enhancement of the instruments available to the European scientific community for assessing quality research. It not only takes into consideration the unique qualities of the goals of the European scientific community, but also the challenges of multilingualism, the variety of currently used policies and the levels of assessment within the member states and will build a prototype framework for one major discipline of the social sciences and humanities which will benefit from such an action in particular.

### **Building on investigative work already done:**

Relevance detection does not just depend on a single aspect, but on multiple dependencies.<sup>7</sup> Special methodologies will be used in the EERQI project investigation to detect and type linguistic expressions of relationships: ranking algebra can be implemented as a formal framework for ranking computation: different rankings established in different contexts (local vs. global contexts) will be of great interest. Text mining methodologies can be used to describe relationships among various ideas and syntax dependencies between references, contextual ideas, and other text-embedded aspects can be exposed. Furthermore, we will build on EC funded work such as the further development of the Xerox Incremental Parser framework as part of the VIKEF project<sup>4</sup>.

### **Preparing the electronic documents for searching, text mining and semantic/linguistic analysis:**

After collection, the electronic content aggregated for the purposes of the project will be prepared for searching, text mining and semantic/linguistic analysis. Semantic/linguistic analysis can be defined as follows: Most search engines today, such as Google, Yahoo and other players in the field, have

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<sup>7</sup> Van Leeuwen, Th.N., Moed, H.F., Tijssen, R.J.W., Visser M.S., and van Raan, A.F.J. (2001). Language biases in the coverage of the Science Citation Index and its consequences for international comparisons of national research performance. *Scientometrics* 51: 335-346; Perrson, O., Glänzel, W., and Danell, R. (2004) Inflationary bibliometric values, the role of scientific collaboration and the need for relevant indicators in evaluative studies. *Scientometrics* 60: 421-432; Perrson, O., and Danell, R. (2004). Decomposing national trends in activity and impact. In: Moed, H.F., Glänzel, W., and Schmoch, U. (2004) (eds). *Handbook of quantitative science and technology research. The use of publication and patent statistics in studies of S&T systems*. Dordrecht: Kluwer Academic Publishers, 515-528; Schneider, J. (2006): Concept symbols revisited: Naming clusters by parsing and filtering of noun phrases from citation contexts of concept symbols. *Scientometrics* 68(3): 573-593.

<sup>4</sup> Cf. <http://vikef.net>

developed very sophisticated technologies over the years to find information on the Web. These technologies essentially rely on keywords, with a certain level of linguistic processing, such as lemmatization. However, as has been shown above, the use of pure keyword technology is not enough and yields a coverage that is at best 40%. The main reason behind this limited coverage is the plasticity of natural languages, which allows for numerous variations to describe the same fact.

The other issue, when using keywords, is that words are processed as character strings, whose semantic nature remains unknown. For instance, it is difficult to query any search site with queries such as when or who, since the indexing of the different sites does not take into account the nature of the strings on which these sites are indexed. Some publications include metadata that give some clues to the publication date, which a search engine might use as a hint. However, if the date belongs to the body of the text, it will be simply processed as a simple alphanumerical string, whose temporal nature is ignored. Proper names and locations are ignored in the same way.

The only way to avoid this problem is to apply more than a simple keyword extraction to the textual body of a document. Advanced linguistically enabled tools (like the Xerox Incremental Parser) automatically extract all the proper names, organization names, dates, locations from documents, which could be used by the indexing engine as a better way of classifying the content of a collection of documents. Named entity extraction pushes the indexing schema toward conceptual indexing.

In a conceptual indexing system, documents are processed with specialized grammars which not only recognize the proper names, the dates or the locations in the texts, but also some basic data such as the relations between these entities, together with contextual synonyms. Using conceptual indexing techniques, indexing is no longer carried out in a document on the words it contains, but on the concepts that are found in it. If the analyzer finds a proper name, then it will index the document both on that name and on the concept *person*. If the same analyzer finds a date, it will first normalize this date, then it indexes the document on that normalized date together with the fact that it contains a *date*. Queries might use these concepts instead of traditional keywords.

This is just an example of the semantic/linguistic methodologies to be used in the EERQI project, as the work in the project including the discussions with the educational researchers will expose the new indicators and correlations which will be incorporated into this semantic/ linguistic analysis framework.

The outcome of this project should create a more legitimate basis of discussion for examining relevance assessment criteria in the humanities and social sciences, as well as identifying discipline-unique characteristics, determining a corpus of standard “ranking excellence and quality indicators”, and demonstrating the feasibility of multilingual search and retrieval instruments in the European context. However – and in order to achieve close to 100% success – the project should develop and implement a prototype of the basic infrastructure and organization for a European scientific relevance assessment framework which is sustainable and can be implemented in other fields as well.

### **Potential relationship to other EC projects:**

The EERQI project has similar goals as the strategic efforts delineated in *SSH-2007-8.5 Impact Assessment Studies* to determine the impact of EU research in the social sciences and humanities on policy and on science. Since the research involved in the EERQI project would most likely be of use in this action, it would be beneficial to all for EERQI representatives to participate in the deliberations and discussion of this strategic effort.

Of equal if not of greater importance is to establish a close connection to the METRIS project (*SSH-2007-8.7 Monitoring European Trends in Research in the Socio-economic sciences and humanities*). Ideally, work determining the state-of-the-art in Work Package 3 and the technical analysis of the corpus of electronic documents available in the field of educational resources (Work Package 2) could flow into this project. Possibilities for cooperation and collaboration could be examined as early as possible after determining that the EERQI Project will be funded. In addition, we

are establishing contact with the TGE ADONIS project directed by the CNRS as there are many interesting aspects in this project which are close to those of EERQI.<sup>8</sup>

Similarly, the results of the EERQI project, based on the field of educational research, could provide an important prototypical impetus which could be extended in context of the *ERA-NET* and *ERA-NET Plus (SSH-2007-8.6)* and it would be important to maintain early contact with these areas as soon as EERQI funding is established.

More generally, EERQI is likely to be relevant for all 6 SSH project themes as part of the (ESFRI) cluster and more particularly build links to both CLARIN (Common Language Resources and Technology Infrastructure) because of our agenda in Natural Language Processing (NLP) and semantic analysis and to DARIAH (Digital Research Infrastructure for the Arts and Humanities) since we may provide elements for making repository content more visible, as well as to assess the relevance of such content.

For the same reason EERQI will be relevant for the FP7 e-Infrastructure project DRIVER II which is building a European network of scientific open content repositories and which has an evident need of content relevance assessment methodology. The same is true for the project cluster working on the European Digital Library (as part of the i2010 strategy), namely EDLnet, TELplus and EDLlocal.

Finally, the results of EERQI will be highly relevant for all those concerned with policy making in the SSH area: the relevance ranking and clustering methods we will provide may be valuable input for preparing policies and funding directions in this area.

### ***B.1.3. S/T methodology and associated work plan***

#### **B. 1.3.1. Overall strategy of the work plan**

The activities in the EERQI project are divided into three phases:

##### **First phase (Month 1-4):**

The first phase includes testing methods for aggregating the necessary information and metadata on the relevant documents in the distributed content bases, needed for the framework so that there is representative coverage of the materials upon which the new indicators and methodologies can be tested (WP 1). This will be done by developing a special EERQI search engine (WP 5) including harvesting tools which can be adapted after first runs to “learn” to recognize further items, institutions, authors and topics which will be relevant in later runs. The electronic content will be collected (with permission of the copyright holders), converted and stored in a format necessary for processing in the second phase (either simple text format or XML). At the same time, as a result of the technical analysis of existing electronic materials in the field and the specifications of the hosting institutions, an overview regarding the type and scope of metadata and full text formats available will be made, as well as an overview of server requirements (WP 3). Negotiations with the copyright holders will also be carried out at this point (WP 1, WP 7), including those with publishers of educational research materials who are not members of the Consortium. A contract among the consortial members will be made to protect access to the aggregated content base and concerning the use and disclosure of copyright-protected data (WP 7).

On the content level, traditional indicators as applied to the field of educational research will be revisited (WP 3) and, on the basis of the observations regarding the effectiveness of traditional indicators, new indicators will be suggested to the educational researchers in a workshop (Month 4, WP 4). This workshop with invited experts will be the basis to discuss all aspects of the use of such quality indicators, the validity and their effectiveness, and to agree on the scope of the new indicators and methodologies to be tested on the content base.

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<sup>8</sup> Cf. <http://www.cnrs.fr/shs/recherche/TGE-ADONIS.htm> and the call text published on this site which lists a number of instruments that are very similar

Thus, in this first phase, the EERQI project will specify and build a proof of concept specification, then in the second phase proceed to test the new methodologies and indicators determined by the scientific community (in this case educational researchers) including the semantic/linguistic aspects and integration of the multilingual environment in a limited form (French, English, German and Swedish languages). The first phase will cover the Months 1-4 of the project (WP 1, WP 2, WP 3, WP 4, WP 5, WP 6 first part, WP 7, etc.).

### **Second phase: (Months 5-30):**

During this phase, the new indicators and methodologies agreed upon in the first phase will be tested on the aggregated content base. The query engine for this purpose will be developed in conjunction between the RRZN and XRCE to include all necessary parameters and metadata analysis (WP 5, 8). In addition, the multi-lingual thesauri in up to 12 European languages<sup>9</sup> will be integrated with morphological conversion tables for languages for which no thesauri exist or for concepts which are not included in the existing thesauri (WP 9). The testing phase will overlap slightly with the finalization of work on the search engine in phase one and on the aggregation of content (WP 1) in phase one which will continue with updates through the second phase to obtain the newest literature.

Also during the second phase, the prototype search engine will be refined and developed to accommodate activities in the third phase, namely duplicating the same process on a smaller scale, on a limited very specific test bed within another social science field. By the same token, refinement on the query engine will be taking place throughout the second phase to accommodate the learning activities emerging from the testing results in this phase.

Furthermore, several activities which are predominately in phase 3 will of necessity begin during this phase: 1) the first work on preparing the sustainability plan (WP 11) will begin as the first results of the testing period for the new indicators and methodologies can be analysed (as of Month 18, possibly earlier); 2) first preparations will be made for establishing a second, limited content base for another specific field in the social sciences on which the transferability (WP 12) of the EERQI indicators and methodologies will be tested (also as of Month 18); 3) the organizational plans and preparation of materials, including a demonstration site and forum for the verification phase and for the Second EERQI Workshop (WP 10) will of necessity have to be made as early as Month 14. Among other aspects, this is to accommodate the academic time restrictions and schedules of the participants (to allow early invitation and greatest participation of these experts in the Second EERQI Workshop. Due to the academic year (assuming the Project starting date is 1 January 2008), Workshop 2 is planned for the end of June 2010 (Month30).

The second phase will culminate in month 30 with the completion of the testing phase and preparation of the test results for scientific verification in the second workshop in Month 32.

**Third phase (Month 30-36):** Activities in this phase will focus on 1) verification of the resulting indicators and methodologies in Workshop 2 by the scientific community including representatives from national research funding agencies, academic administrators in this area, etc.; 2) prototype operationalisation and functionality of the EERQI Framework and developing a viable sustainability plan (WP 11), 3) testing the transferability of these indicators and methodologies to another social science area and subsequent production of guidelines for implementing the framework effectively into other areas of the social sciences and humanities (WP 12), and 4) presentation of the Project results, including demonstration of the EERQI Prototype Framework, transferability to another social science area, and presentation of the sustainability plan will take place in the Final Project Conference (WP 13, ca. month 33).

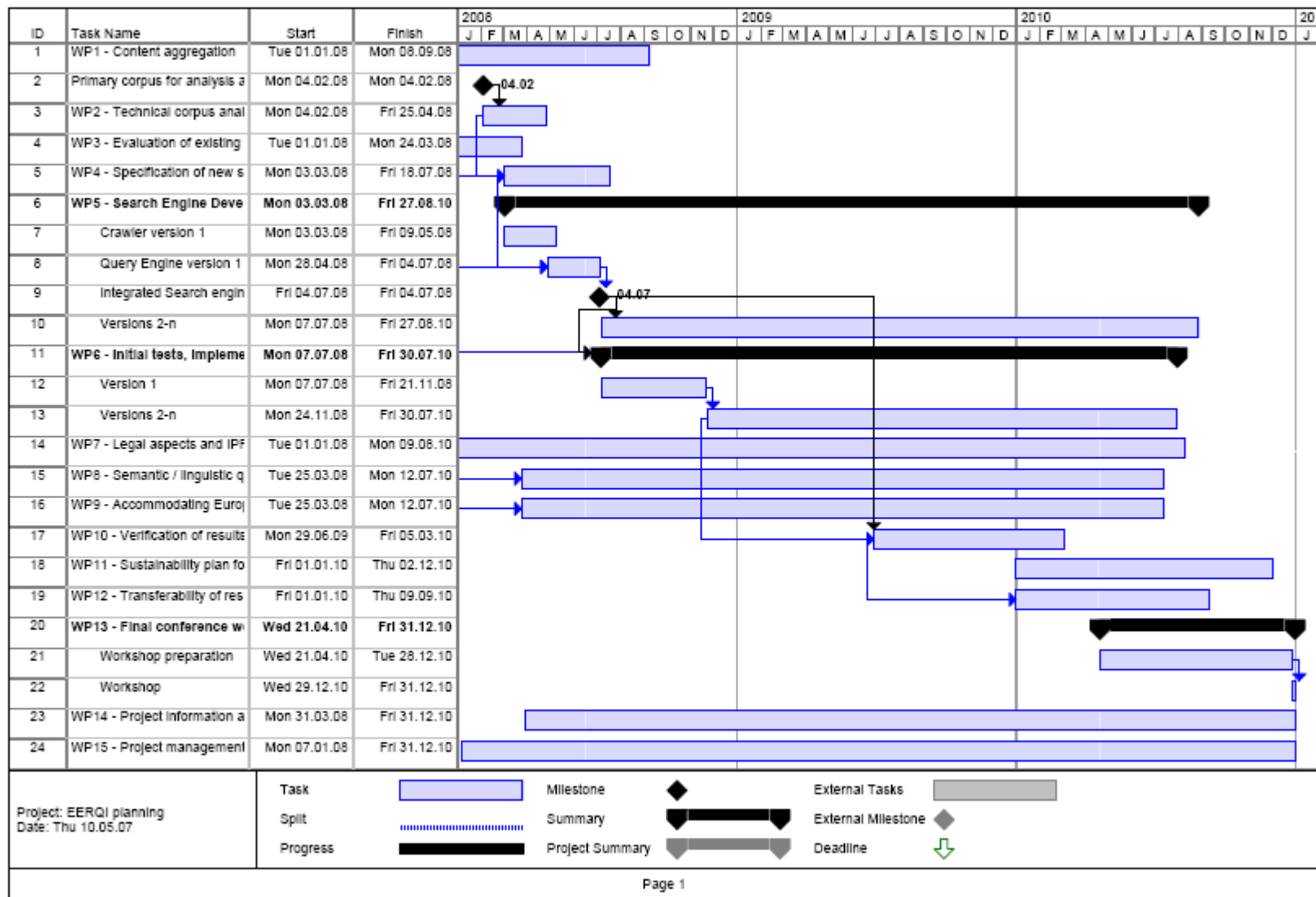
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<sup>9</sup> Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Polish, Portuguese, Russian and Spanish,

### **B. 1.3.2. Graphical presentation of the components showing their interdependencies**

**Timing of the different WPs and their components (Gantt chart).** (Diagramm 3) (Page 23)

**Interdependencies between EERQI Project Components (PERT Chart)** (Diagramm 4) (Page 24)





**B.1.3.3. Work package list**

<b>Work package No.</b>	<b>Work package title</b>	<b>Type of activity</b>	<b>Lead Beneficiary No.</b>	<b>Person-months</b>	<b>Start month</b>	<b>End month</b>
1	Content aggregation	RTD	2	17	1	6
2	Technical corpus analysis	RTD	4	8	1	3
3	Evaluation of existing methods and indicators for scientific quality assessment	RTD	7	4	1	3
4	Specification of new scientific quality assessment indicators and methods	RTD	14	19	1	5
5	Search engine development	RTD	6	56	1	36
6	Testing new indicators, implementation and prototyping operations on content base	RTD	19	8	3	8
7	Legal aspects and IPR	MGT	2	8	1	6
8	Semantic and linguistic quality detection and evaluation methodology	RTD	5	31	1	30
9	Accommodating Europe's multilingual environment	RTD	5	21	1	30
10	Verification of results by the scientific community	RTD	18	17	18	32
11	Sustainability plan of EERQI framework	RTD	2	12	24	36
12	Transferability of resulting indicators to another SS field	RTD	7	14	24	36
13	Final conference workshop	RTD	1	15	24	34
14	Project information and dissemination	RTD	4	24	1	36
15	Project Management	MGT	2	26	1	36
	<b>TOTAL</b>			280		



**B. 1.3.4. Deliverables list****List of Deliverables – to be submitted for review to EC**

<b>Del. no.<sup>5</sup></b>	<b>Deliverable name</b>	<b>WP no.</b>	<b>Lead beneficiary</b>	<b>Estimated indicative person-months</b>	<b>Nature<sup>6</sup></b>	<b>Dissemination level<sup>7</sup></b>	<b>Delivery date<sup>8</sup> (proj. month)</b>
1	EERQI Prototype Search and Query Engine	5, 6, 8, 9	RRZN, HU-BERLIN, XEROX	72	P	PU at end of project	Initial prototype Month 7, Final version Month 36
2	EERQI Prototype Research Quality Indicators	4, 6, 10	UHamb DE, EARLI	32	P	PU	Initial version for testing, Month 5, Final version Month 35
3	EERQI Text Analysis Methodology	6	HU-BERLIN, XEROX	56	P	PU at end of Project	Initial version Month 6, refinements up to Month 24, Final version Month 36
4	EERQI Sustainability Plan	11	UHamb DE	18	P	PU	Month 36
5	EERQI Project Portal	14	ISN, UHamb DE	30	P	PU, RE	Initial prototype Month 3, continuous updates, Final version Month 36
6	3 Project Reports: 2 interim annual reports, 1 Final Project Report	15 (4, 10, 13)	UHamb DE	4	R	RE, PU (Final Project Report)	Month 12, Month 24, Month 36

<sup>5</sup> Deliverable numbers in order of delivery dates: D1 – Dn

<sup>6</sup> Please indicate the nature of the deliverable using one of the following codes:

**R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

<sup>7</sup> Please indicate the dissemination level using one of the following codes:

**PU** = Public

**PP** = Restricted to other programme participants (including the Commission Services)

**RE** = Restricted to a group specified by the consortium (including the Commission Services)

**CO** = Confidential, only for members of the consortium (including the Commission Services)

<sup>8</sup> Month in which the deliverables will be available. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

7	6 EERQI Policy Briefs reflecting project progress	15	UHamb DE	6	R	RE, PU (if deemed of interest)	One every 6 months beginning with Month 6
8	EERQI Project Brochure (if possible through the EERA national member societies, in all European languages)	15	UHamb DE	4	R	PU	Initial version Month 1, Final version Month 36
9	Guidelines for Transfer of EERQI Prototype Framework to other Social and Economic Sciences and Humanities	12	DIPF	14	P	PU	Month 35
10	Final Conference to Present & Disseminate EERQI Results	13	EERA, UHamb DE	8	O	PU	Month 34
TOTAL				244			

### B.1.3.5. Work package descriptions

#### Work package 1: Content Aggregation

<b>Work package number</b>	1		<b>Start date or starting event:</b>					Month 1			
<b>Work package title</b>	Content Aggregation										
<b>Activity Type</b>	RTD										
<b>Participant number</b>	1	2	7	10	11	12	13	15	17	19	
<b>Person-months per participant:</b>	2	1	1	1	1	1	1	2	1	4	

**Objectives:** To aggregate electronic full texts and metadata from publishers, research institutions, open access and other Internet resources to form a federated content base of educational research documents upon which new research quality indicators and methodologies can be applied and tested in context of this Project.

**Description of work:** This work package will specify an open standards-based aggregation architecture and implement a prototype environment federating a significant number of available sources relevant to the content orientation of this project.

1. First, collective resources and locations for documents in the field of educational research will be specified to create a list of identified document repositories, publishers, national and/or subject-oriented databases, as well as other information sources that contain full text and metadata of relevance for European educational science. The list will cover sources available from the project partners, as well as from external sources and will include sources that can be addressed via mediating instances, such as the OAI-PMH protocol.

2. Full text documents will include:

- a. **Contributions by partner publishers** - As partners in the project, several European publishers of educational resources (Routledge - *Contents Pages in Education*, Routledge, Taylor and Francis, Blackwell Publishing, Symposium Journals, VS-Verlag) have already committed their delivery of relevant full texts and access to relevant metadata for this project. (Responsible persons: Project Manager and Technical Coordinator, as well as EERQI Publishing Partners and Affiliated Partners)
- b. **Aggregation of available federated open access resources** - Relevant OAI-compatible repositories (institutional and subject-based) and producers of OAI harvesting instruments, existing projects, and key database hosts will be approached to obtain access to full texts and relevant metadata for content processing. Freely available online journals will be included in the harvesting process for relevant primary sources, as well as for references to the content base of educational research materials. (Responsible persons: Project Manager, EERA members and other EERQI Partners)
- c. **Repositories/Documents** of other partners in the project (individual learned societies of EERA member countries, ECER documents) (Responsible Persons: Project Manager and Technical Coordinator)
- d. **Digitization** of currently non-online available relevant educational research materials through Google Scholar/Google Book. This process will be coordinated with the assistance of the EERA membership, and individual contracts for the digitization of the materials will be made between Google Scholar/Google Book and the respective association or learned society publishers. The metadata and electronic full texts will then be available via the Google Scholar/Google Book platform for investigation within the proposed project. (Coordination through Project Manager and EERA)
- e. **Limited subscriptions for fee-based resources** (non-participating publishers, fee-based databases) will be negotiated if necessary to obtain access to relevant full text documents and rich metadata for purposes of testing the new indicators and methods of quality assessment. Attempts will be made to

negotiate no-charge arrangements with as many content owners as possible for the research purpose of this Project. (Responsible Person: Project Manager)

3. Furthermore, **rich metadata** will be obtained from the publishers, as well as from national and international bibliographies for educational research. Other key data providers will be approached and methods of cooperation – if relevant – will be discussed to achieve access to relevant full texts and rich metadata of educational research materials and related materials. The metadata must be relatively rich in order to be able to apply and test new methods of evaluation within the project and for purposes of semantic/linguistic analysis full texts will be ultimately necessary.

4. **These full text documents will be harvested, appropriate rich metadata extracted and conversion tools (WP 6) applied**, as soon as the EERQI federated search engine (developed in WP5) is available. **These will be integrated into a single format reference/content base (XML)** for purposes of applying and testing the quality assessment methods (including semantic/linguistic text analysis) and indicators within the Project. Duplicate documents, derivatives and related documents and versions will be revealed, identified, and verified. Metadata revealing links to print documents, electronic versions, different formats, difference locations, etc., will be verified by document checks and linked for further processing.

**Role of participants:** The Institute for International, Comparative and Multicultural Education of the University of Hamburg (Project Manager) will coordinate this work package, in close cooperation with the EERA members and publishers, including BERA, SSRE, etc. as well as DIPF, UmU, LUB-LU, IRDP, for assistance in identifying key educational resources and publishers. The publishers are involved through their provision of the electronic metadata and full texts in the formats needed, and additional publishers will be contacted for inclusion of their data and input into the Project. The technical aspects resulting from this, including structuring of the Content Base and security assurance, will be coordinated by the Technical Coordinator at HU-Berlin where the aggregate content server will be maintained in close cooperation with the RRZN, ISN. The activities within this Work Package will have implications on the research and work activities in WP 2, WP 3, WP 4, WP 5, WP 6, WP 7, WP 8, WP 9, and WP 12.

### **Deliverables**

Digitization of currently non-online educational research materials in conjunction with outside sources, learned societies and other projects will be more of a by-product of the EERQI Project than a Deliverable, as the work done is outside of the EERQI Project, although the results will be integrated into the EERQI Content Base and thus into the EERQI Project.

The overview of electronic resources available in the field of educational research ( in conjunction with WP 2) scheduled for completion in Project Month 3 will help form the basis for the Aggregate EERQI Content Base which will be used for testing the EERQI Prototype Research Quality Indicators. The aggregated EERQI Content Base will be maintained on a dedicated, Project-internal server– and will be continuously updated through Month 30/32. The Aggregated EERQI Content Base will not be open to the public as it contains proprietary data owned by the participating publishers. However, the EERQI Project Portal will provide a bibliographic reference base for all electronic resources used in the EERQI Project and a demonstration Content Base will represent an extraction of the EERQI Aggregated Content Base and will be used for demonstrations at Workshop 2 and in presentations about the Project at various scholarly conferences..

## Work package 2: Technical Corpus Analysis

<b>Work package number</b>	2	<b>Start date or starting event:</b>				Month 1
<b>Work package title</b>	Technical Corpus Analysis					
<b>Activity Type</b>	RTD					
<b>Participant number</b>	4	5	19			
<b>Person-months per participant:</b>	3	1	3			

**Objectives:** Technical analysis of the document formats, availability and type of metadata, reliable log files, server restrictions, export formats, etc., which will be needed for developing the parameters of the search engine (WP 5), as well as for conversion of the documents and extraction of metadata and other information needed for the research analysis in WP 6, 8 and 9.

### Description of work

As soon as the exact nature, scope and location (host) of the relevant document space is known, a detailed analysis of the available document formats and attached information, specifically the metadata sets, as well as technical access/gateway, server restrictions (and, if available, download records), etc., is required from a technical perspective in order to determine the potential scope of harvesting, export and conversion methods, as well as determining indicators in terms of technical viability and as input for WP 3, 4, and 5. Resulting from the in-depth analysis of the metadata-sets of the document space, an application profile for interoperability will be developed which may include crosswalks where necessary.

**Role of participants:** ISN will lead this WP by supplying its expertise in technical analysis corpora with the other participants cooperating closely with server information and information on the granularity of metadata being obtained (ISN, RRZN, HU-Berlin), on document formats reviewed by RRZN, HU-Berlin and XEROX, and other information surveyed by participants UHambDE and XEROX.

### Deliverables

Results of the technical analysis of electronically available educational research materials will be used in building the aggregate content base (no individual public deliverable). An internal report will be submitted to the Project Manager (WP 1 leader), the Technical Coordinator (WP 6 leader) and WP 5 leader for background information in building the EERQI Aggregated Content Base.

### Work package 3: Analysis and Evaluation of Existing Methods and Indicators for Scientific Quality Assessment

<b>Work package number</b>	3	<b>Start date or starting event:</b>	Month 1				
<b>Work package title</b>	Analysis and evaluation of existing methods and indicators for scientific quality assessment						
<b>Activity Type</b>	RTD						
<b>Participant number</b>	7	15					
<b>Person-months per participant:</b>	3	1					

**Objectives:** Analysis and evaluation of the advantages and disadvantages of the existing methods and indicators for quality assessment (already in use or in experimental state).

**Description of work:** This WP will classify approaches to measure and describe the quality of research and related publications. First, standard assessment methods like citation analysis and peer review will be evaluated, then new and experimental approaches – based on full text or rich metadata – will be examined. The approaches include frequencies of usage and linking/citation, linguistic analysis of references and content structures, if available log-file-analyses (webometrics). It will also take into consideration version types per document, journal impact factors and relationships between citations from journals and citations from books – especially important in the target field. Advantages and disadvantages, such as coverage, scope, reliability, limitations, language and geographical coverage, level of quality, etc., will be investigated and exposed using tests on the federated EERQI content base and other instruments. Resulting ideas for new indicators and metadata for relevance assessment will be delineated and passed on to WP 4 for review and consideration.

**Role of participants:** The coordinator DIPF will conduct research and searching on the basis of existing instruments, maintain contact to relevant institutions, etc., and write the report based on contributions of the partners who provide information (primarily references to publications) on relevant projects and approaches.

#### Deliverables

The analysis and evaluation of existing methods and indicators for scientific quality assessment and document types in educational research field will be used in the process of preparing for the first workshop and in preparing the list of new indicators to be tested in the EERQI Project (no individual public deliverable)

**Work package 4: Specification of New Scientific Quality Assessment Indicators and methods for measuring research quality in scientific publications (restricted to the target field of educational research)**

<b>Work package number</b>	4	<b>Start date or starting event:</b>				Month 1			
<b>Work package title</b>	Specification of new scientific quality assessment indicators and methods for measuring research quality in scientific publications (restricted to the target field of educational research)								
<b>Activity Type</b>	RTD								
<b>Participant number</b>	14	1	2	3	7	8	13	15	
<b>Person-months/participant:</b>	5	3	1	1	2	2	1	3	

**Objectives:** To determine possible new scientific/research quality assessment indicators and methodologies with input from educational researchers, specialists in the fields of computer and information science, and key entities involved in evaluating scientific publications, such as research funding agencies, higher education councils and evaluation procedures in general within the scientific community.

**Description of work:**

Based on results of WP 3 and consultation with experts in research quality evaluation in each of the participating countries, potential new quality indicators and methodologies of research quality assessment will be identified. In a first project workshop, these innovative methodologies and indicators will be discussed in working groups with experts, focussing on their characteristics and their advantages and disadvantages. During this process, new criteria will emerge as relevant, and the necessary metadata and information for evaluation purposes will have to be added to existing metadata, e.g., extracted information from electronic full texts. This set of indicators and correlations will be presented to key researchers and publishers in the target field of educational research in the first workshop for feedback and evaluation. The outcome of this first project workshop will result in a recommendation for new EERQI indicators, correlations and methodologies. These results will then be tested and analyzed in an operational setting (WP 6) , using the aggregated content base developed in context of WP 1.

1. Relatively well-known, but not yet widely-used criteria for evaluation, ranking of “excellence” and scaling, such as citation analysis and usage-based metrics (web logs), peer review criteria for publications and other new factors will be further developed. In particular, evaluation criteria used in funding and hiring policies, institutional evaluation procedures (i.e., RAE in UK), and from professional societies will be investigated and the expectations and needs of such funding and assessment bodies will be taken into consideration within the working groups.

2. Different levels of quality evaluation will be distinguished – number and country of authors, nature of citation, type and quality of citation, type of document, versions, research area, journal quality, unique characteristics of the discipline, etc. This will also integrate citation data beyond journal citation data, including books, multiple occurrences (versions, i.e., open access, publisher fee-based availability) and, if appropriate, comparisons to download statistics.

3. During this process, new criteria will emerge as relevant and the necessary metadata and information which will have to be added to existing metadata, for instance, extracted information from electronic full texts, will be determined. These will be compiled to form the initial prototype EERQI framework which will enable the identification of improved quality assessment methods and indicators in educational research. Ranking indicators matching the type of information that is needed for scholarly assessment, usability for research, quality of research, and research assessment exercises will be determined and included. In the first workshop, this set of indicators and correlations will be presented to key researchers and publishers in the

targeted field of educational research, as well as experts in higher education and research funding evaluation, with the request to provide feed-back to evaluate this draft framework.

4. Additional semantic/linguistic factors for quality detection and further evaluation methodologies based on these factors will be further developed in WP 8.

5. This work package also involves the preparation of the first workshop to gain input and relevant discussion of the proposed indicators, before testing these indicators and methodologies on the aggregate content base. This task will include:

- a. Contacting participating educational research organisations and publishers for gathering and creating an overview of currently used quality evaluation measurements (in conjunction with WP 3) and for the identification of experts in the field of research quality.
- b. Prior to the workshop, a list of the indicators that are currently used in specific contexts related to specific groups (hiring committees, evaluation committees, funding agencies, etc.) will be formed (based on the output of WP 3) and a list of suggestions for new indicator areas will be sent to the invitees. Within the group of participating educational research experts, cooperation and discussion will take place prior to the workshop and for preparation of the workshop to achieve a structured, but nurturing environment for workshop exchange. (if possible – time constraints allowing)- Furthermore, the EERQI Research Partners will be asked to compile a “state-of-the-art” country review on the methods and weighting of research quality indicators in evaluation procedures used by higher educational assessment bodies, research funding agencies and research societies and policy-makers in their country. These country “state of the art” reviews will also be distributed to the Workshop participants in advance of the Workshop for preparation and background information prior to the brainstorming and discussions in the separate working groups.
- c. The workshop will be structured over 2 days to include working group discussions, forum discussions, and brainstorming sessions not only to determine the most viable new indicators but also to establish relevant proofs of concept and suggested verification processes. This requires the inclusion of experts who are well-informed of hiring, funding and other evaluation policies for educational research within Europe and for the assessment of scientific research in general, as well as bibliometric, usage metrics, and other methods of indicator measurement. The participation of EARLI and EERA, as well as BERA and SSRE, as well as the newly formed EERQI Advisory Board means a significant contribution to the analysis and to an animated, in-depth discussion on the quality criteria in the field of educational research in Europe. Additionally, the involvement of these associations will guarantee the implementation of an on-going verification process among their members and experts during the course of the project. The Work Package activities extend therefore into the testing period and overlap with the verification procedures in Work Package 10 (WP 4 extends through Project Month .13 and allows a 2 month overlap with Work Package 10 which will begin in Project Month 12). This will ensure continuity in the testing and verification process for the educational researchers and other evaluation and funding agency experts involved.

6. Furthermore, unique domain-specific characteristics will be identified and presented to the workshop participants for discussion, as will methods for analysing formal aspects of text type, type of citation reference, multiple occurrences (versions, availability via open access and fee-based hosts) and currently unforeseen relevance and quality assessment factors.

7. The First EERQI Workshop will be by invitation only. Preparatory documents (as delineated above) will be sent to invited participants in advance. The EERQI Advisory Board will participate in the role of working group leaders. There will be the possibility for indicator-specific working groups to meet through an online conferencing system after to the workshop, to discuss newly surfaced aspects. The result of the workshop will be a report with a list of the suggested new quality indicators and methods for proof of concept. This list of proposed indicators and methodologies will be finalized according to the input and feedback, discussion and questions posed during the first workshop and compiled in a recommended list of new EERQI indicators, correlations and methodologies to be tested and analyzed in an operational setting (WP 6) using the aggregated content base of WP 1.

**Role of Participants:** EARLI will lead this work package, which implies the coordination of the various



input from the participating institutions (country “state-of-the-art reports”, lists of suggested experts in the relevant fields), as well as the organization of the workshop. Every participating institution will be responsible for making key contacts in their constituency and with the relevant agencies and councils in their countries or in the different countries of their members when the partner is a(n) (research) association that can consult their members. This consultation will result in the suggestion of key experts on scientific quality evaluation of educational research from different European countries who will be invited to participate in the workshop. The Project Manager will consolidate the list of new indicators and proofs of concept to be tested and co-ordinate the preparation of documents for the workshop.

**Deliverables**

2. (Initial) Prototype EERQI research quality indicators (a list) for testing – Month 5 (Final version Month 35)

Execution of the workshop is part of the work package; a report on the workshop and its results will be included in EERQI Policy Brief Nr. 1. (Month 6, Deliverable No. 7) and in the Year 1 Annual Report (Month 12, Deliverable No. 6).

The EERQI testing phase will start in Project Month 5 and Work Package 4 will assist the EERQI Steering Committee in guiding the participating educational researchers, EERQI Advisory Board and other voluntary experts in maintaining an overview of the testing procedures, the status of the new indicators and the development of new testing and verification methods within the Project. There will be an online forum to further the exchange of ideas and information.

## Work package 5: EERQI Search Engine and Query Engine Development

<b>Work package number</b>	5	<b>Start date or starting event:</b>				Month 1
<b>Work package title</b>	Search Engine Development					
<b>Activity Type</b>	RTD					
<b>Participant number</b>	6	4	5	19		
<b>Person-months per participant:</b>	32	16	5	2		

**Objectives:** To build the prototype search engine for harvesting relevant documents, converting these and in the later phases of the project develop the query engine modules for applying the indicators to the aggregate content base for purposes of analysis, text mining and evaluation of the proposed indicators and methodologies.

### Description of work:

The search engine has to fulfil two main tasks within this project:

- 1) Dynamically find new documents in the field of educational research (crawler).
  - 2) Make the content of all of the documents available for searching, text mining and analysis (query engine).
- The first task of dynamically finding new documents is done by the crawler, the second task by the query engine. Both are integrated parts of the search engine, which is comprised of many additional modules with more specific tasks, such as link structure extraction and relevance algorithms. These specific tasks will deliver additional information to the other work packages (WP 1, WP 2, WP 6), which will use it as input. Vice versa, the results of the relevance evaluation (WP 4, WP 8) will guide adaptive changes within the programming of the relevance algorithms of the search engine.

For the first phase of developing the crawler, the open-source software Nutch/Lucene will be used to set up the search engine. This set up will be enabled in an efficient way by an editorial list of known resources (e.g. URLs). Starting with these, the crawler module of the software will then be modified to automatically detect documents in the field of educational research, and thus expanding the content base for text analysis in the other work packages (WP 1, WP 2, WP 6).

In addition, the functionality of the search engine will be extended to allow archiving of any web-document (including its metadata of any kind) within the field of interest of this project. In agreement with the copyright holders of these documents, they will be stored at least for the duration of the project to allow analysis of their content.

The query engine will be refined in its inner modules by the outcomes of the relevance evaluation (WP 4, WP 8). Furthermore, the user interface will be enhanced with refined query options to allow exact queries according to the needs of the user. This refinement will enable the user to search for very detailed specifics such as type of document (e.g. books, conference papers, journals etc.), date or range of publishing, authors, title, user-defined relevance-criteria, etc. By these means, the shortcomings of commercial search engines are overridden, allowing text mining in a scientific way applied to a specific domain content base.

This search engine will clearly demonstrate the viability of new quality indicators within European educational research materials by a publicly accessible web interface. [This publicly accessible interface will however only display open access items or those for which the project has received permission to expose. For other items, the publicly accessible interface will only be able to expose the appropriate metadata.]

**Role of the participants:** The search engine lab of the Regional Computing Centre for Lower Saxony at the Leibniz University of Hannover will lead and coordinate this work package, with cooperation and input for testing and verification from participants 4, 5 and 19. Refinements will be added as necessary until the end of the project, including results from the application to an additional social sciences field in WP 12.

**Deliverables:**

1. Prototype EERQI Search Engine – Initial search engine Month 7, with later updates and development of query engine. Full adaptation of the requirements of the project including refinements in both the search and query engine will be completed by Month 36 (this includes the multilingual feature for the query engine for French, English, German and Swedish by Month 12 – see below work evolving from Work Package 9).

### Work package 6: Testing new Indicators, Implementation and Prototyping Operations on the federated Aggregate Content Base

<b>Work package number</b>	6		<b>Start date or starting event:</b>				Month 3	
<b>Work package title</b>	Testing new indicators, implementation and prototyping operations on the federated content base							
<b>Activity Type</b>	RTD							
<b>Participant number</b>	19	5	7	15	4	6	1	2
<b>Person-months per participant:</b>	6	1	1	2				

**Objectives:** Based on the outcome of WP 4, the objective of this work package is to apply the new indicators and methodologies determined in WP 4 to the aggregated content base (WP 1). This involves three aspects: 1) adding the necessary metadata to test and evaluate the new indicators and thus prepare the content base for searching, text mining and analyzing; 2) designing the testing methodologies and parameters using the query engine developed in WP 5 to apply these indicators to the content base and test them in terms of the usability, reliability and effectiveness, and 3) monitoring the test results to refine the methodologies and determine verification procedures to be presented to the scientific community. This work package represents the largest part of the research work in the Project. Hence, a continuity between the content aspects of the determination of new indicators and methodologies for verification are underscored by the continuous refinement and innovation involved in developing relevant technical testing and verification procedures.

#### Description of work:

In this work package, the major research design, proof of concept functions and complex processing scenarios will be specified and implemented with the aim of providing a convincing and effectively working prototype framework for relevance assessment by the end of the project. The prototype framework consists of the search engine with refined query functions and parameters for defining queries according to the suggested new indicators and methodologies of the EERQI project. The work in WP 6 will be conducted in 3 phases:

**1. Initial tests on the preliminary content base with the preliminary query engine prototype (Month 6-Month 11)** - Any sources harvested in the content aggregation phase that were not previously converted to text/XML formats (WP 5) will be converted in this WP to enable searching, text mining and analysis [this may be dependent on language conversion packages connected to extraction programmes]. Using the extraction methodology being developed in WP 8 and the query engine being developed in WP 5, first preliminary tests on the content base will be conducted.

**2. Implementation of matured prototype query engine for all new indicators, correlations and methodologies to be tested within the EERQI project and full testing applied to the completed, aggregated content base (Month 12-Month 30)** (Statistical analysis and compilation of test results will start during this phase, but will culminate in phase 3, when all query engine refinements have been accomplished pertaining to the testing of the data on the EERQI aggregated content base) - In the implementation phase of the prototype query engine and testing of new research quality indicators, correlations and methodologies on the fully acquired aggregate content base (although the content base will be continuously updated through Project Month 30), the documents will be subjected to semantic and linguistic analysis processing as defined in WP 8 and WP 9. The system to be used in EERQI will automatically extract the authors, the date of publication, the article title and the journal from any reference, as well as other to-be-defined aspects. The system might also detect the places where references have been inserted and determine types of references. This data will then be compiled for processing in additional metadata or document indexes. The compiled data, metadata, and document indexes will then be subjected to statistical and other types of analysis

necessary to test the chosen indicators and methodologies. Statistical and other types of results compilations will be made during this phase in various ways, including correlation graphs, indicator relationships (clustering) and others. First validation of these test results will be determined by duplication of such results using different methods of analysis and changing of parameters. This segment of WP 6 which represents the major testing phase is scheduled for 18 months in order to allow for complex study of the aggregate content base, various forms of indicators and combinations of correlates, as well as changes in the testing scenarios and alterations in the tested methodologies to validate the overall research results. During this time period the results will also interchange information with WP 5 which will stimulate further refinements and if necessary, alterations in the structure of the query engine and the query mechanisms being applied to the content base and in terms of relevance to the goals of determining new research quality indicators.

Furthermore, the technical coordinator, along with the Project Manager and Project Coordinator, will monitor results and maintain continuous feedback with the researchers of the educational research domain involved in testing and verification of the various new indicators. To do this, a demonstration content base will be extracted with key examples for the researchers to use through the protected area of the Project Portal to validate indicator results as viable, effective indicators of quality research as applied to the publications of the field. The activities of this phase form the link between Work Package 4 and Work Package 10 in this project. Hence, there are various EERQI Partners who do not have personnel man months directly involved in this Work Package, but through whom the researchers involved in testing and verification are guided, monitored and results fed back into the testing procedures.

**3. Statistical analysis of test results, compilation of correlation possibilities, refinements of query engine according to results (Month 30-36)** - In the final months of this work package (Month 30-36), the results of the tests will be compiled and prepared for both demonstration and presentation at the second workshop (WP 10), which also includes creating an online demonstrator content base with appropriate types of examples of the new indicators for prior-testing and verification by participants of the workshop and other constituents which will be involved in the research quality verification procedure (3a). Parallel to this, the parameters and specifications of the testing methodologies and the query engine will be adjusted (if necessary) for use in transferring these indicators and methodologies for a small content base of materials from a highly specific field in the social sciences will be developed. This WP thus provides technical expertise and experience which can then flow into the activities of both WP 12 and further refinement for the final search and query engine in WP 5 to be completed by the end of the Project.

**Role of the participants:** HU-Berlin will take on the leadership of this work package both in its responsibility as technical coordinator for the entire project and in its responsibility for the aggregate content base upon which the testing depends. Furthermore, the University of Hamburg in the persons of Prof. Dr. Ingrid Gogolin and the Project Manager, Dr. Diann Pelz-Rusch, is also responsible to the EERA and its member associations for the testing procedures and their validity, as well as for providing the results for scientific verification. In addition, the participants of the search and query engine development (ISN, RRZN, XEROX, HU-Berlin) are also intensely involved and will receive continuous feedback on the quality of the test results in order to refine and perfect the functionality of the query engine. Because of its experience with text extraction and parsing in different languages, the Xerox Research Centre Europe is also significantly involved in this work package and provides the semantic/linguistic and parsing technology to be expanded upon and developed in this work package and will ensure the validity of the proposed indicators and methodologies. In addition, there will be active input and testing from the other participants, especially for the French and German languages by researchers from the IRDP, as well as the participants from the First EERQI Workshop, since they are well-versed with the traditional research quality assessment methods and with the types of documents in this field. This will involve in exchange of data, direct access to the test bed and test results, teleconferences and face-to-face meetings during the intensive testing phases in the months 9-30 of the project. This work package depends on close cooperation with the WPs 5, 8 and 9 and later in the project, WP 10 and WP 12. Please note that the participation of RRZN and ISN in this work package will overlap with work in WP 5 and is therefore not included in the total person months for this WP.

#### **Deliverables:**

The methodological part of the Prototype Framework EERQI research quality indicators (Deliverable No. 2) and the EERQI Text Analysis Methodologies (Deliverable No. 3) will be used for testing during the Project

(preliminary prototype in Month 6 and used for verification in Workshop 2 (ca. Month 30) and finalization of the EERQI Indicators by Month 35.

Progress reports on the testing results will be included in the respective Policy Briefs (Deliverable No. 7).

## Work package 7: Legal Aspects and Intellectual Property Rights

<b>Work package number</b>	7	<b>Start date or starting event:</b>					Month 1
<b>Work package title</b>	Legal aspects and Intellectual Property Rights						
<b>Activity Type</b>	MGT						
<b>Participant number</b>	1	2	10	11	12	17	
<b>Person-months per participant:</b>	3	1	1	1	1	1	

**Objectives:** First, to establish a legal framework for storage and use of the electronic documents aggregated for the project content base with the participating publishers and with additional copyright owners of the documents, as well as other data providers (repositories, institutions, etc.). Second, on the basis of this legal framework and the results of WP 6, 8, 9, and 10, host discussions and exchange between the project and copyright owners to establish a legal framework proposal which will be included in the project sustainability plan (WP 11).

### Description of work:

1. First, a legal framework will be established for preparing a stable and sustainable content aggregation and processing environment for the project activities. This includes negotiations with copyright owners and data providers. It may include dealing with various forms of licenses for access to full texts (both commercial and open access licenses) for investigatory purposes, for storage of the electronic texts in the project format, and for extracting the necessary metadata for the purposes delineated in the project. Agreements with participating publishers in the project and additional publishers will also address this issue. Authors and researchers will be assured of their rights via the respective information channels of the participating educational research societies and, if necessary, through direct contact. The project website will have information on the use, storage and non-disclosure policy for these documents for the duration of the project. Results of the project will refer to the compliances and agreements with the relevant copyright holders and data providers.

2. Second, to enable long-term, sustainable application of the indicators and methodologies resulting from the project, negotiations and agreements with publishers, universities and other copyright holders or data providers (including institutional and subject repositories) will be drafted with respect to the legal framework. Discussions between the participants of this work package will take place via all communications methods (email, teleconference, etc.) and in a face-to-face special meeting of the appropriate stakeholders within Workshop 2) to develop viable scenarios and a final framework draft for sustaining the EERQI framework and for transferring the resulting indicators and methodologies to other fields. The advantages and disadvantages of such scenarios and final framework will be disseminated during the discussion phase for feedback, and the results will be integrated into the final workshop and in the final EERQI Sustainability Plan. Furthermore, also as part of the EERQI Sustainability Plan, standards and guidelines for authors will be drafted to ensure that full coverage of the works of European authors are included in the proposed federated network so that their works receive full credit in future evaluation and ranking procedures.

**Role of the participants:** With the assistance of a 4-month staff assistant, the Project Manager at Hamburg University will coordinate activities in this WP and conduct negotiations with copyright holders and data providers. The participating publishers in the project will contribute significantly, and other publishers will be invited to contribute should they wish to do so. The Consortium publishers will maintain contact with and assist in providing information dissemination to relevant publishing concerns outside of the project to best represent the long-term interests of the project and to encourage communication towards successful project

goals and a viable sustainability framework. The participating publishers will also be important in helping alleviate misunderstanding of the project goals and legal aspects of the sustainability framework, especially from the standpoint of copyright holders and data providers. Contacts with EERA members will serve to disseminate copyright and intellectual property rights information relevant to the project goals and obtain feedback and suggestions from the standpoint of the authors and their institutions (content owners and in many cases also copyright holders), as well as from other groups with vested interests in this area (the information users, information brokers, researchers, research institutions, higher education and research councils, etc.). This information and feedback will flow into the final legal framework and into the first considerations for establishing the Framework on a long-term basis which will be developed in the Sustainability Plan (WP 11). Thus, this activity will be continued and expanded upon within the activities of WP 11.

**Deliverables:**

Legal framework for the EERQI aggregated content base with permission to store and extract data for the purposes delineated in the project – to be completed by Month 9 – This is an internal agreement between the partners within the EERQI Consortium. It does not constitute a deliverable for the public. However, its effectivity and basis will also be further developed in preparation for the Legal framework suggestion for long-term sustainability as part of the final EERQI Sustainability Plan (WP 11, see Deliverable No. 4) – Month 35



## Work package 8: Semantic and Linguistic Quality Detection and Evaluation Methodology

<b>Work package number</b>	8	<b>Start date or starting event:</b>					Month 3
<b>Work package title</b>	Semantic and linguistic quality detection and evaluation methodology						
<b>Activity Type</b>	RTD						
<b>Participant number</b>	5	7	16	19	1		
<b>Person-months per participant:</b>	15	3	7	3			

**Objectives:** To implement relevance evaluation methods based on semantic analysis and advanced linguistic methods.

### Description of work:

In this work package, the benefits of relevance evaluation methods based on semantic analysis and advanced linguistic methods will be demonstrated. Some of the methodological framework for this activity will have been provided by WP 4 and there may be strong interaction with other work packages (e.g. grid-based computing resources may be required once latent semantic analysis techniques are used). Analysis based on advanced linguistic processing methods has a clear potential of both complementing results obtained via statistical methods - in the sense of refining these results – and providing possibilities towards the elaboration of novel evaluation criteria.

We propose the enhancement of the following areas of quality assessment based on the semantic analysis of scientific publications (others may emerge during the course of the project):

a. **Citation analysis:** citation analysis will be refined by marking up citations according to three relevant aspects: the relationship of the publication cited to the publication that cites it (i.e., building on it, contradicting it, etc.), the author's positive or negative assessment of the publication cited, and self-reference, i.e., the fact that the author cites his own previous work.

Advanced linguistic methods may yield alternative results or even statements that contradict or correct quantity-based evaluation methods. This approach makes possible the identification of citation link “families”, which may deliver alternative weighting methods for citation indexes.

Moreover, while some instances of reference can be formally identified (since they appear in footnotes or reference numbers) and thus they can be included in statistical approaches, others can only be detected using methods of semantic analysis within the citation context. Such operations on monographs' full text may yield information as to the impact of the work referred to that could never have been detected using statistical methods alone.

b. **Type of contribution:** An important aspect of research quality is the type of the contribution of a research publication to the state of the art in the corresponding research field. We will investigate the rhetorical structure of scientific publications and identify linguistic markers of argumentation. Since the authors of research papers usually compare their results to their peers', applying rhetorical content analysis we detect passages of such comparison, and mark up research publications with semantic tags that indicate if they are in contradiction to previous work or organically continue it, extend it, etc. Thus we will gain insight into this facet of research quality through direct indicators.

c. **Genre analysis:** A third contribution of semantic quality detection is the automatic recognition of publication genre. Since the formulation of the publication sheds light on genre, linguistic analysis can categorize scientific publications into predefined categories that are not always present in metadata: if the publication is theoretical or empirical research, yields diagnostics, it is an overview, etc.

The methodology of semantic analysis is based on deep and reliable syntactic parsing. Semantic analysis of scientific publications has been applied in the Vikef European project in the domain of information sciences. We will extend the same methodology to cover the vocabulary of educational research and other social

sciences.

In this work package, application procedures for semantic and linguistic content analysis will be limited to the four project target languages: English, French, German and Swedish.

**Role of participants:** Xerox SAS will lead this work package and provide the bulk of technical and functional analysis. They will also provide coordination and elaboration of the linguistic analyzer using the Xerox Incremental Parser. DIPF can provide various basis scenarios and experience with content clustering, etc. HU-Berlin will follow work in this area through its technical coordination role and assist wherever is necessary, especially with regard to access and use of the aggregated content base. The Lund University Libraries will provide expertise for the analysis of structures identifiable in co-word analyses, their relation to co-citation structures, as well as relating citation and terminological structures to broader theoretical content issues. They bring broad experience with citation theory and open access materials as well. Radboud University (ITS) will also contribute its expertise in content and contextual analysis.

### **Deliverables:**

Methodologies for semantic/linguistic quality detection as part of the EERQI Text Analysis Methodology (Deliverable No. 3) – Month 30

Evaluation of semantic/linguistic methodologies used in the EERQI Project research for identifying and testing research quality indicators will be included in the Policy Brief for the period concerned (Deliverable No. 7) and will be included in the Final Project Report (Month 36, Deliverable No. 10).

## Work package 9: Accommodating Europe's Multilingual Environment

<b>Work package number</b>	9	<b>Start date or starting event:</b>				Month 3
<b>Work package title</b>	Accommodating Europe's Multilingual Environment					
<b>Activity Type</b>	RTD					
<b>Participant number</b>	5	7	15	19	1	
<b>Person-months per participant:</b>	7	6	3	3		

**Objectives:** In this work package (as opposed to the language limitations in WP 8), additional search functions – based on standardized metadata and standardized concordances – will be applied in a multilingual environment using multilingual terminologies available in the European context. On this basis, the project will investigate the feasibility of multilingual searching and automated subject heading concordances, as well as keyword translation techniques, to determine to what extent relevant terminology in the major European languages can be adapted to web ontology and to a multilingual search engine for document retrieval and document analysis. This may also involve recognition and identification of unique, non-transferable terms within certain language contexts requiring scope notes, explanatory and other concordance information.

### Description of work:

This work package involves two major aspects:

**1. Integrating multilingual searching, subject heading concordances, thesauri, etc., into all processes of the EERQI search and query engine.** On the basis of the query engine developed in WP 5, the EERQI project will integrate existing subject heading terminology, thesauri and concordances in the field of educational research available for the European languages. The results of multilingual searching and evaluation of the proposed indicators will then be investigated in context of the text analysis procedures for their validity within the project methodology and as a basis for improving research quality assessment.

Similar efforts and results of the DONOR Project (Radboud University, ITS), DRIVER Project, DANS Project, Quaero and other related projects to investigate the feasibility of multilingual searching and automated subject heading concordances/keyword translation techniques will be drawn upon and wherever possible integrated into the project procedures.

**2. Multilingual search will be enhanced by applying basic linguistic analysis of educational research texts in 11 additional European languages (Czech, Danish, Dutch, Greek, Hungarian, Italian, Polish, Portuguese, Russian, Spanish and Finnish).** Morphological parsing mechanisms will build on work previously done at the XEROX Research Centre Europe and will allow pursuit of citations and other references to the literature collected in the aggregate content base in these additional languages.

**3. In addition, the usability of the multilingual European thesauri in the field of education will be considered beyond their original intent of translating** metadata and indicators into all European languages. The best known thesauri are the European Educational Thesaurus and the CEDEFOP T. and the new TESE (T. for educational systems in Europe). Beyond Europe the International Bureau of Education (UNESCO) also maintains a multilingual thesaurus. Such instruments serve not only as multilingual concordances, but can be used to discover semantic and linguistic “loopholes” where terms cannot be viewed as equivalent in various languages and thus indicate the embeddedness of certain terms and concepts in a particular national or cultural context.

**Role of participants:** Xerox SAS will lead this work package and provide finite-state morphological analyzers of the 10 languages. Other participants will add expertise in European languages beyond this. The RRZN will integrate the multilingual language tools into the EERQI search and query engine. DIPF will assist in integrating all available language concordances for European languages for multilingual search,

including negotiation of electronic rights for including them in the project operations. HU-Berlin will support and follow work in this area within its function of technical coordination for the project.

**Deliverables:**

The multilingual search and retrieve/query system is part of the development of the EERQI Search and Query Engine (Deliverable No.1)– Month 9 with refinements continuing until end of Month 34

Evaluation of the effectiveness of the integrated multilingual subject/content descriptor reference files, as well as the multilingual search and retrieve/query system will be included in the final Project Report (Deliverable No. 10).

### Work package 10: Verification of Project Results by Scientific Community

<b>Work package number</b>	10	<b>Start date or starting event:</b>								Month 12
<b>Work package title</b>	Verification of project results by scientific community									
<b>Activity Type</b>	RTD									
<b>Participant number</b>	15	1	2	3	7	8	13	14	18	19
<b>Person-months per participant:</b>	5	2	1	1	1	1	1	2	2	1

**Objectives:** To ensure continuity in the testing and verification phases, this Work Package will overlap with the activities in WP 4 and WP 6 to follow and continue guidance for the researchers involved in the testing and verification phases. The results of this phase will lead into the preparation for the Second EERQI Workshop in the Project Month (30-32). This Workshop will include invitations again to participants of Workshop 1, as well as to further invited experts in the relevant fields. In the Second EERQI Workshop, the results of the tested and applied indicators and methodologies will be demonstrated and presented with a preliminary evaluation on the part of the project consortium. The experts will then be asked to verify the value and effectiveness of the indicators and give feedback on the proposed methodologies and indicators.

#### Description of work:

At the latest, half-way through the project, results should be available in a form that allows for verification of results by the EERA community in ways yet to be discussed – one of the hard requirements being that this community should be convinced by the end of phase one that the methodology and technology demonstrated by EERQI have a clear potential to replace existing approaches in their discipline area. This process will also take into consideration the expectations and needs of relevant higher educational evaluation bodies, research funding agencies, research societies and other relevant policy-making bodies.

The visibility of education/learning as a policy space and its emergence as a significant area of policy is not matched by useful analyses of its operation; this is a problem for education researchers working across Europe. In practical terms, education and education research policy is no longer the sole domain of the nation-state, but has become a key feature of a europeanizing process. “New Learning” is central to the knowledge economy, allowing education to be compared, promoted, researched and improved in its European role as a key player in the knowledge economy and as a distinctive element in the particular mission of europeanization within globalization. The consequence of this shift in the mission, role and scope of education is that, within Europe, a new policy area has opened out to manage education and learning. The distinctive nature of this policy space is fluid, heterogeneous and polymorphic, at the same time obvious and transparent and yet it is also fuzzy. It lacks distinctive institutions, visible sites and key players in the way the nation-state education policy area had developed over time.

The importance of this proposal, and one of the main reasons why EERA is promoting it, is that the contribution of European education researchers is hampered by the way it is organized in Europe. Distinctive and fruitful traditions of work are locked into national intellectual resources and it is a slow process to enable them to move across borders. Barriers to development are growing as a research quality agenda in universities relies upon the commercial Thomson Index [*SSCI*] as an indicator of international quality and research visibility, and as a driver of policy decisions in funding research grants, university hiring and promotions.

Cooperation with or at least usage of results of the ERIH project (European Reference Index for the Humanities) will be appreciated and is possible through the interconnection with EERQI Partner EARLI whose members were involved in this process. Furthermore, intensive contact to the ESF and their interests in this area will be maintained and ongoing contact with relevant projects and activities in the ESF will be

stimulated..

Participation in the second EERQI workshop will also be by invitation only, although by this time, interested persons and experts identified in the field will have been identified. The Second EERQI Workshop will also integrate participants from the first workshop, The EERQI Advisory Board, as well as additionally identified experts in the field. At this workshop, the results of the EERQI project will be presented and discussed, as well as other methods of verification of the research quality assessment factors. It should be noted that also the multilingual tools integrated into the EERQI project and the semantic/linguistic criteria of evaluation will be included in this verification procedure by the scientific community. Comments and additional evaluation methods resulting from this discussion at this Workshop or prior to the Workshop in online form will be verified and tested. The results of the workshop will be provided in a published report (most likely in Policy Brief no. 5 if time allows this and enough information can be obtained from the verification phase prior to the Second EERQI Workshop..

It is planned to combine this workshop with an extra sub-workshop specifically for the content owners and other major stakeholders in the preparation of the EERQI Sustainability Plan (WP 11). This would minimize travel costs for the EERQI participants, publishers and EERQI Advisory Board involved.

**Role of participants:** The Institut de Recherche et Documentation de Pédagogique (IRDP) together with the Swiss Society of Educational Researchers will organize this workshop in Switzerland, as well as the sub-workshop for discussing the scenarios for sustainability (WP 11). The IRDP will assist this endeavour, especially by making contact to relevant social scientists and humanities experts to view the demonstration of the transferability of the EERQI indicators to other social sciences (WP 12) (Efforts will be made to hold this workshop in close time proximity with a relevant conference of the Swiss social sciences in 2010 to enhance visibility of the new EERQI Indicators and Prototype Framework). Each of the educational research societies involved will also be responsible for naming further experts in evaluation, higher education and research councils, social sciences evaluation, etc., to be invited to this workshop. IRDP and HU-Berlin will provide technical support for the demonstration and presentation of the testing results, there will also be a space on the project website for participants to view the results before this workshop and use the demonstrator. EERA, UHambDE, DIPF and UmU will also assist in preparing selected test results for presentation and in contacts to the higher education and research councils in other EC countries to encourage their participation.

### **Deliverables:**

Verification of the EERQI project test results by scientific community in Workshop 2 is part of this Work Package – Month 30-32. A report of the workshop results will be included in the Policy Brief Nr. 6 (Deliverable No. 7) and in the Final Project Report (Deliverable No. 10).

The Second EERQI Workshop will also include a separate workshop to allow face-to-face discussions between researchers, funding agencies, higher educational evaluators and publishers in determining the basis for the EERQI Sustainability Plan (Deliverable No. 4).

## Work package 11: EERQI Sustainability Plan

<b>Work package number</b>	11		<b>Start date or starting event:</b>					Month 18	
<b>Work package title</b>	Sustainability plan for maintenance of EERQI Framework								
<b>Activity Type</b>	RTD, MGT								
<b>Participant number</b>	1	2	7	10	11	12	17	19	
<b>Person-months per participant:</b>	5,5	1	1	1	1	1	1	0,5	

**Objectives:** To develop a sustainability framework and plan for a) maintaining and expanding the aggregated content base developed through permitted access to full texts and relevant metadata of both fee-based and non-fee-based contributors with respect to their legal rights and IPR needs, b) creating an organizational basis for an administrative framework and c) establishing a cooperative scientific basis to maintain a high level of evaluation of research quality embedded in a non-partisan environment. This is necessary to retain independence from commercial interests, to be available in a non-partisan manner to funding agencies, higher education and research councils across Europe, and for more comprehensive and non-partisan academic ranking information, while at the same time guaranteeing the necessary coverage, scope, accuracy, and protection from misuse or misinterpretation.

### Description of work:

In this work package, models for proposing a sustainable framework including a concrete organizational basis for integrating the evaluative assessment features resulting from the EERQI project will be developed and discussed in context of the interests of the vested stakeholders (researchers, publishers, repositories, academic institutions, funding agencies, higher education and research councils, etc.). This will build on the discussions among the content copyright holders and data providers in view of the legal framework for sustainability conducted parallel in WP 7. Using telecommunications, feedback on draft scenarios and suggestions can be exchanged and worked upon on using a multi-user, password protected editing system on the project website. A face-to-face workshop involving the major stakeholders will, however, be necessary to explain and discuss the sustainability plan and seek commitment to such an exploitation of the project results. To avoid unnecessary travel costs, this workshop will be a sub-workshop conducted within or directly after Workshop 2 of the project, so that the major stakeholders (participating data providers including database vendors, journal and book publishers and other services, but also the invited experts in the project representing higher education evaluation, research funding bodies, etc.) will have seen the project results in Workshop 2 and can then discuss the draft presentation of the proposed scenarios and suggestions for a sustainability framework plan, including the legal framework for sustainability resulting from WP 7.

Some of the main aspects to be included in the sustainability plan are:

- A non-partisan environment for maintaining such a framework including continuity and reliable update of the content base, maintenance of the search and query engine with periodic review mechanisms on the part of the academic community for sustained relevance of the indicators, correlations and methodologies used;
- Academic acceptance of the evaluative indicators and methodologies for research assessment ranking within this and other fields including standardization and dissemination to maintain transparency and guarantee non-partisan influence;
- Means of maintaining confidentiality, data privacy, data accuracy, methodological validity and prevention of misuse;
- A sustainable financial basis for continuation and expansion of the framework – in order to ensure that the framework live over time: The advantages and disadvantages of existing types of business

models based on subscription costs, costs per query, membership flat fees such as in some open access publishing models, maintenance through the scientific community (EERA) with contributions from the publishing concerns will be investigated under various aspects.

Furthermore, the sustainability plan will use the EERQI project results to make an estimate for the cost and work effort intensity to build on the EERQI experiences with research quality assessment improvement and pan-European coverage of educational research materials, as well as application of this estimate for other social sciences and humanities (as well as for other fields).

**Role of the participants:** The University of Hamburg will lead this work package, as it requires an intimate overview of the project, the communication between the partners and the data providers, as well as the technology and overview of the nature of the documents in the content base. The person chosen for this project work will be adept in proposing viable sustainability models and will be acutely aware of the issues evolving from the implications of the EERQI project and its goals. This person will also possess a well-founded overview of the discussions surrounding research quality indicators and relevant developments within the European scientific community. The participating publishers, including interested publishers beyond those already participating in the Consortium, will be especially involved in two aspects of this work package: 1) helping to solve the issues of access provision to fee-based content and the ensuing legal framework for various sustainability models (in close cooperation with WP 7), and 2) helping develop feasible business models that can be sustained within the academic community while also contributing to breaking down certain prejudices that publishers unduly exploit the scientific community. All other participants, especially the educational researchers associations, will be able to contribute valuable experience to the discussion and formulations of the organizational models and suggest acceptance requirements from the “users” standpoint (i.e., authors, researchers, institutions, funding agencies, higher education and research councils, etc.).

#### **Deliverables:**

In conjunction with Workshop 2 of the project, a workshop for key stakeholders (publishers, university administrators, funding agencies, research associations, etc.) whose interests would be involved in a sustainable framework will be held. This sub-workshop would allow the presentation of the draft idea of the EERQI Sustainability Plan and various models for the sustainability framework. Such a workshop would facilitate face-to-face discussion and perhaps breakout groups to solve particular sustainability issues - Month 30-32.

4. EERQI sustainability plan - Month 36.



## Work package 12: Transferability of Resulting Indicators to another SSH Field

<b>Work package number</b>	12	<b>Start date or starting event:</b>					Month 18
<b>Work package title</b>	Transferability of resulting indicators to another SSH field						
<b>Activity Type</b>	RTD						
<b>Participant number</b>	7	1	10	11	17	19	
<b>Person-months per participant:</b>	6	1	1	1	1	4	

**Objectives:** To determine the transferability of the EERQI indicators, methodologies, and application of the EERQI search and query engine to replicate improved research quality indicators and assessment procedures in another social sciences or humanities field.

### Description of work:

The EERQI framework will be analysed for its transferability to other fields. With the cooperating publishers, learned societies and technical participants, the EERQI framework will be expanded in to a structural roadmap for implementation in other social science and humanities fields, if not for other academic areas. Using a small, but representative content base of data for a very specific area of another social sciences field, the EERQI indicators, search engine, query methodologies and ontologies developed within the EERQI project will be tested for their validity when applied to content from other social science and humanities fields in an exemplary setting. A highly specific area of a social sciences or humanities field which can be very clearly defined must be selected, in order to facilitate the relatively rapid content aggregation, as well as the testing and verification of the transferability results within the project duration. Although limited, this social science topic content base must be specific enough and include adequate, representative coverage to allow verifiable testing and application of the indicators and provide reliable, substantiated evidence of transferability of the indicators, correlations and methodologies. Systematic and operational conclusions for broader transfer to other disciplines will also be discussed. The technical tools developed in the project will be refined and if necessary adjusted to accommodate ease of application of the resulting EERQI indicators to other fields. Changes in the technical tools, as well as testing procedures, results and irregularities will be recorded, edited, and complemented with guidelines in such a manner that they will be most potentially useful for other fields by identifying domain-specific aspects.

If successful, a set of guidelines will be produced to help facilitate transfer of the EERQI indicators, methodologies and search/query engine to other fields. If found to be not transferable, the EERQI project will publish a report on why this methodology and search engine technology could not be transferred to the other (chosen) field(s).

**Role of the participants:** DIPF will amass a representative set of content for a related social sciences field using its experience in the transdisciplinary social sciences Vascoda project in Germany. On the basis of its background knowledge in the social sciences, DIPF will also suggest the highly-specific topic to be used in this WP and initiate collection of the necessary terms, subjects, authors, institutions, etc., that would cover this field. The corresponding terms, subjects, institutions and names will then be applied to the search and query engine technology in the multilingual environment of the four target languages and using appropriately available thesauri in this field to obtain a representative content base. In the same way as in the EERQI project, the chosen indicators will be tested for their validity and effectiveness in this field and presented to a selection of experts via email or in a “virtual” verification workshop similar to Workshop 2 within the scientific community of the selected social sciences domain. The results of this testing, application, and verification activity will be summarized in a public report. The set of guidelines for application and transferral to other fields can be compiled during the exercise of transferral to another field. The technical partners involved in development of the search engine, the query modules and the application of content analysis methods (HU-Berlin, ISN, RRZN, and XEROX) have included their work estimation for expanding

the EERQI search and query engine for this application within WP 5, WP 8 and WP 9. The parameters relating to the specific social sciences field will be exchanged for those referring to content of educational resources through the guidance of the coordinating institution. Should refinements to the search and query engine be discovered to be necessary for this application to another field, they are included in the refinement period parallel to this work package.

**Deliverables:**

Within the Second EERQI Workshop demonstration of transferability of the EERQI Prototype Framework results to another social sciences or humanities field will take place (on the basis of an aggregated, but limited content base in the selected social sciences field.) – Month 30-32

Integrated into the Final Project Report (Deliverable No. 10): a report will be made on the transferability of EERQI indicators and methodologies to another social science field – Month 36

9. Publication: Guidelines for Transferring EERQI Prototype Framework to other Fields in the Social and Economic Sciences and the Humanities.– Month 36.

### Work package 13: Final Project Conference for Researchers, Funding Agencies and Evaluation Bodies with Demonstration of Project Results

<b>Work package number</b>	13	<b>Start date or starting event:</b>								Month 24
<b>Work package title</b>	Final conference for researchers, funding agencies, demonstration of project results									
<b>Activity Type</b>	DEM									
<b>Participant number</b>	2	1	3	7	8	13	14	15	18	19
<b>Person-months per participant:</b>	2	5	1	1	1	1	1	1	1	1

**Objectives:** To present the results of the EERQI project to the interested public, as well as to have representatives from higher education and research councils, research funding agencies, and university administrators speak on their impressions of the EERQI results.

#### Description of work:

On the basis of the EERQI results, a final, open conference or workshop for educational researchers and the targeted research environment (funding agencies, researchers in other social science and humanities fields, policy makers, etc.) will be planned and conducted to demonstrate the results of the project, including the indicators and methodologies, the search and query engine, as well as the viability of the new EERQI Indicators and Prototype Framework. Furthermore, the EERQI Sustainability Plan will be presented, discussed and the acceptance for the suggested Sustainability Plan will be determined. In addition, the transferability of the EERQI indicators and methodologies and search/query engine to other fields in the social sciences and humanities, will be demonstrated.

Feedback from researchers, publishers, and other key stakeholders attending this conference, as well as public responses to the reports and demonstrations on the project website, will be integrated into final project evaluation (up to a certain time cut-off deadline in Month 35) and into the final version of the EERQI Sustainability Plan. Depending on the results and acceptance of the EERQI Indicators and Prototype Framework, as well as the EERQI Sustainability Plan, discussion at this Final Project Conference could lead to concrete plans for realizing the sustainable framework.

This workshop should be publicized well in advance of the actual workshop and include speakers from the major stakeholders (funding agencies, publishers, academic ranking experts, Research Assessment Exercise (RAE) and other science and hiring policy makers) who have been informed in advance of the preliminary project reports. Not only a thorough and detailed presentation of the technology and the procedure of determining the new indicators and methodologies should be given, but also the rationale for a specifically European determination of research quality assessment. The impact potential resulting from the EERQI prototype framework should be delineated on the basis of example (for instance, on a sampling of enhanced author visibility through this instrument/framework as opposed to being based on traditional ranking instruments). Similarly, the EERQI Sustainability Plan should be presented and its advantages for all stakeholders in this environment highlighted (publishers, authors, institutions, funding agencies, evaluation authorities or councils, etc.). The workshop schedule should allow enough time for questions, comments, feedback and discussion. Ideally, the initial results from the project should be presented on the EERQI website at least 2 weeks prior to the workshop to allow participants to familiarize themselves with the major issues. Furthermore, comments on controversial issues should be invited prior to the workshop so that sufficient time is allowed for precisely such discussion – if so desired in focus groups. This workshop may require 2 full days with reimbursed costs for invited speakers and representative experts in the various stakeholder fields for a final panel discussion. The impact of such a workshop in influencing public opinion, research policy, funding policies, institutional administrative decisions (repository mandates, etc.) should be evident. Thus, the workshop must be well-planned and will undoubtedly be attractive due to its controversial

nature. Ideally, this final EERQI workshop should be held in the Commission context (Brussels) and allow up to 400-600 (?) attendees.

**Role of participants:** The role of all participants will be to prepare the Project results for presentation and seeking acceptance among the key stakeholders, and assist in organizing this final Conference. The technical coordination for technical aspects of the presentations and demonstrations will be led by the HU-Berlin. EERA and UHambDE will then be responsible for organizational aspects and selection of results necessary for acceptance of the EERQI Prototype Framework. If the Project results merit it, the Final Conference should be held at the EC in Brussels in conjunction with the Science and Society Directorate. EERA and the UHambDe will be responsible for the Conference Programme and content. The role of the individual learned societies, research institutes and EARLI will be with regard to expanding the list of invitees to include those experts not already invited to the former workshops – especially those involved in policy-making, to assist in selection of relevant demonstration aspects, as well as assist in the publicity and public relations activities surrounding the project and this final workshop.

**Deliverables:**

10. Final Project Conference to present project results to the scientific community, funding agencies, policy makers, university administrators, etc. – Month 34

This Conference will be reported on in the last Policy Brief (Deliverable No. 7) as well as in the Final Project Report (Deliverable No. 6) Month 36.

**Work package 14: Building the EERQI Portal**

<b>Work package number</b>	14	<b>Start date or starting event:</b>				Month 1
<b>Work package title</b>	Building the EERQI portal					
<b>Activity Type</b>	RTD					
<b>Participant number</b>	4	1	19			
<b>Person-months per participant:</b>	18	5,5	0,5			

**Objectives:** To develop and maintain a publicly accessible project website which will provide all project information, reports, partner information, events' calendar, etc., as well as a forum for discussion of various topics which arise during the course of the project. There will also be a consortium-only accessible part (password protected) for internal exchange of information, overview of work package progress, deadlines, schedules, contact persons, and internal forum for each work package group, as well as for the consortium as a whole.

**Description of work:****Project-server**

The project server will be structured in three layers:

1. Internal project-server (Communication within the project)
2. Public project-server (Status of project to the public)
3. Public 'results'-server (Outreach)

**1. Internal project-server**

The objective of the internal project server is to establish the technical basis for effective and current communication within the project, by using the following service-modules:

- Partner-information: Institute address, phone/fax/email, homepage, research fields, publication list, etc. (dynamic update-Interface)
- structured internal document archive (documents in preparation; protocols;)
- overall project management services (calendar, overall project work plan, work plans for each work package, etc.)
- management services for each individual work package group
- communication services (internal email-list with archive; collaborative editor (subversion); forums for discussion within each work package
- new services: continuously adding services as needed.

**2. Public project-server**

The objective of the public project server is to serve the public with information about the project goals, focus, status, plans and events of the project.

- Aim of the project
- Project partners
- Planned outcomes
- Scheduled events
- Documents of the project partners
- Communication interface with the public.

**3. Public "results" -server**

- Experimental novel services, developed in the project, where demonstration of the EERQI results and public testing is welcomed
- List of results to be expected
- Links to EERA, the partners, and relevant education research institutions
- Discussion forum (or more) for controversial topics and topics for which EERQI requests feedback, etc.

**Role of the participants:** Partners involved are ISN for the technical design, implementation, and support, the Project Management at UHambDE for the responsibility for content, decision regarding content types, and for the organisation of the intellectual content. Work Package leaders will be responsible for the input, content and extent of information on their work package. All participants will be responsible for input regarding their specific institutions, activities, and usage. The server will have a project-related web-address, and will be hosted at the professional system level by the HU Berlin.

**Deliverables:**

5. The EERQI Project Portal includes the internal project server (basic version end of Month 3), communication services within project, and public project results server – Delivery end of month 1, continuous update and expansion to Month 36.

## Work package 15: Project Management

<b>Work package number</b>	15	<b>Start date or starting event:</b>				Month 1
<b>Work package title</b>	Project Management					
<b>Activity Type</b>	MGT, RTD					
<b>Participant number</b>	1	2	9			
<b>Person-months per participant:</b>	24	2	1			

**Objectives:** To manage all activities in the project, coordinate events, maintain deadlines, prepare reports, policy briefs and other publications about the Project, maintain communication among the partners, and ensure that the project goals are achieved.

### Description of work:

This work package includes all project management activities including scheduling, maintaining information and workflow among the consortium members, monitoring the activities of the individual work packages, ensuring that deadlines are met and project goals are achieved, as well as functioning as contact point for outside information on the project. Administrative activities include management of overall funding, content negotiation (if necessary) and administrative contact with the Commission. Technical coordination of the project ensures the overall technical and functional coherence of all complex activities within EERQI. The responsibility of the project management also includes the preparation and publication of all project publications in electronic form and, if desired and so agreed upon in conjunction with the Commission, in print form. The project management will be responsible for supplying annual reports including financial reports, administrative reports and scientific reports. The project management is responsible for all consortium issues and for all legal negotiations within the project. Communication structures, formats, a project logo and unified format for all project concerns will be developed and maintained by the project management in conjunction and in agreement with the other consortium members.

**Role of the participants:** The project office and project manager will be integrated into the University of Hamburg, Institute for International, Comparative and Multicultural Education answering directly to the Project Coordinator, Prof. Dr. Ingrid Gogolin (current EERA President). A full time project manager will be necessary to coordinate the project office, project activities, deadlines, publications, and events. The person envisioned for this position has considerable background in negotiating electronic content, consortium building, bibliometrics, electronic publishing, metadata, open access and project management in general. Technical coordination will be assured by HU Berlin. The resources allocated for this task are identified in the corresponding work packages, including input into the research activities of various work packages as a result of the Project Manager's experience and knowledge in these areas.

### Deliverables:

- 7. 6 Policy Briefs – one every six months giving a report on the project progress. (Months 6, 12, 18, 24, 30,
- 6. Final Project Report, Month 36
- 6. 2 Annual Reports at end of Year 1 and Year 2 including each a financial report, administrative report, scientific report – Month 12, 24
- Management of the project and maintenance of a central office for queries, contact, administrative matters, etc. – Month 36
- Together with ISN and WP 14, maintenance and update of the EERQI Project Portal (Deliverable No. 5).

### B 1.3.6 Efforts for the full duration of the project.

#### Project Effort Form 1 - Indicative efforts per beneficiary per WP

Project number 217549: ...EERQI

<i>Workpackage</i> <sup>12</sup>	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	WP9	WP 10	WP 11	WP 12	WP 13	WP 14	WP 15	Total
Beneficiary 1 UHambDE	2			3			3			2	5,5	1	5	5,5	24	51
Beneficiary 2 EERA	1			1			1			1	1		2		2	9
Beneficiary 3 BERA				1						1			1			3
Beneficiary 4 ISN		3			16									18		37
Beneficiary 5 XEROX		1			5	1		15	7							29
Beneficiary 6 RRZN					32											32
Beneficiary 7 DIPF	1		3	2		1		3	6	1	1	6	1			25
Beneficiary 8 ESOE				2						1			1			4
Beneficiary 9 Radboud-NL															1	1
Beneficiary 10 TandF	1						1				1	1				4
Beneficiary 11 Symposium	1						1				1	1				4
Beneficiary 12 VS-Verlag	1						1				1					3
Beneficiary 13 UmU	1			1						1			1			4
Beneficiary 14 EARLI				5						2			1			8
Beneficiary 15 IRDP	2		1	3		2			3	5			1			17
Beneficiary 16 LUB-LU								7								7
Beneficiary 17 Blackwell	1						1				1	1				4
Beneficiary 18 SSRE										2			1			3
Beneficiary 19 HU-Berlin	4	3			2	6		3	3	1	0,5	4	1	0,5		28
TOTAL	15	7	4	18	55	10	8	28	19	17	12	14	15	24	27	273

<sup>12</sup> This is the number of person months over the whole duration for the planned work.



### Project Effort Form 2 - indicative efforts per activity type per beneficiary<sup>13</sup>

Project number 217549: ...EERQI

Activity Type	Beneficiary 1 UHambDE	Beneficiary 2 EERA	Beneficiary 3 BERA	Beneficiary 4 ISN	Beneficiary 5 XEROX	Beneficiary 6 RRZN	Beneficiary 7 DIPF
<b>RTD/Innovation activities</b>							
WP 1	2	1					1
WP 2				2	1		
WP 3							2
WP 4	2	1					1
WP 5				11	4	24	
WP 6					1		1
WP 7	2	1					
WP 8					11		2
WP 9					5		4
WP 10							1
WP 11	4,5	1					1
WP 12	1						4
WP 13							
WP 14				12			
WP 15							
Total 'research'	11,5	4	(See Other)	25	22	24	17
<b>Demonstration activities</b>							
WP 1							
WP 2				1			
WP 3							1
WP 4							1
WP 5				5	1	8	
WP 6							
WP 7							

<sup>13</sup> Please indicate in the table the number of person months over the whole duration for the planned work , for each work package, for each activity type by each beneficiary

WP 8					4		1
WP 9					2		2
WP 10	1,5	1					
WP 11	1						
WP 12							2
WP 13	4	2					1
WP 14	4,5			6			0
WP 15							
Total 'demonstration'	11	3	(see Other)	12	7	8	8

Consortium management activities							
WP 1							
WP 2							
WP 3							
WP 4	1						
WP 5							
WP 6							
WP 7	1						
WP 8							
WP 9							
WP 10	0,5						
WP 11							
WP 12							
WP 13	1						
WP 14	1						
WP 15	24	2					
Total 'management'	28,5	2	0	0	0	0	0

Other activities							
WP name			1, 4, 10, 12				
Etc							
Total 'other'	0	0	Subcontracting	0	0	0	0

TOTAL BENEFICIARIES	51	9	Subcontracting	37	36	32	25
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Project number 217594: ...EERQI

Activity Type	Beneficiary 8 ESOE	Beneficiary 9 Radboud-NL	Beneficiary 10 TandF	Beneficiary 11 Symposium	Beneficiary 12 VS-Verlag	Beneficiary 13 UmU	Beneficiary 14 EARLI
RTD/Innovation activities							
WP 1			1	1	1	1	
WP 2							
WP 3							
WP 4	2					1	4
WP 5							
WP 6							
WP 7			0,5	0,5	0,5		
WP 8							
WP 9							
WP 10	0,5					0,5	1
WP 11			1	1	1		
WP 12			0,5	0,5			
WP 13	0,5					0,5	0,5
WP 14							
WP 15							
Total 'research'	3	0	3	3	2,5	3	5,5
Demonstration activities							
WP 1							
WP 2							
WP 3							
WP 4							1
WP 5							
WP 6							
WP 7			0,5	0,5	0,5		
WP 8							
WP 9							
WP 10	0,5					0,5	1
WP 11							
WP 12			0,5	0,5			
WP 13	0,5					0,5	0,5
WP 14							
WP 15							

Total 'demonstration'	1	0	1	1	0,5	1	2,5
Consortium management activities							
WP 1							
WP 2							
WP 3							
WP 4							
WP 5							
WP 6							
WP 7							
WP 8							
WP 9							
WP 10							
WP 11							
WP 12							
WP 13							
WP 14							
WP 15		1					
Total 'management'	0	1	0	0	0	0	0
Other activities							
WP name							
Etc							
Total 'other'	0	0	0	0	0	0	0
<b>TOTAL BENEFICIARIES</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>8</b>

Project number 217549: ...EERQI (continued – 3).....

<i>Activity Type</i>	Beneficiary 15 IRDP	Beneficiary 16 LUB-LU	Beneficiary 17 Blackwell	Beneficiary 18 SSRE	Beneficiary 19 HU-Berlin	TOTAL ACTIVITIES
<b>RTD/Innovation activities</b>						
WP 1	2		1		3	14
WP 2					3	6
WP 3	1				0	3
WP 4	2			(See Other)	0	13+Subcontracting
WP 5					2	42
WP 6	2				6	10
WP 7			0,5		0	5
WP 8		5			2	20
WP 9	2				2	13
WP 10	2			(See Other)	0	5 + Subcontracting
WP 11			0,5		0,5	10,5
WP 12			0,5		2	8,5
WP 13	0,5				0	2+ Subcontracting
WP 14					0	12
WP 15					0	0
Total 'research'	11,5	5	2,5		20,5	164+Subcontracting
<b>Demonstration activities</b>						
WP 1					1	1
WP 2					0	1
WP 3					0	1
WP 4	1				0	3
WP 5					0	14
WP 6					0	0
WP 7			0,5		0	2
WP 8		2			1	8
WP 9	1				1	6
WP 10	3			(See Other)	1	6,5+ Subcontracting
WP 11			0,5		0	1,5
WP 12			0,5		2	5,5
WP 13	0,5				1	11

WP 14					0,5	11
WP 15					0	0
Total 'demonstration'	5,5	2	1,5	(See Other)	7,5	71,5

Consortium management activities						
WP 1						0
WP 2						0
WP 3						0
WP 4						1
WP 5						0
WP 6						0
WP 7						1
WP 8						0
WP 9						0
WP 10						0,5
WP 11						
WP 12						
WP 13						1
WP 14						1
WP 15						27
Total 'management'	0	0	0	0	0	31,5

Other activities						
WP name				WP 4,10,13		
Etc						
Total 'other'	0	0	0	Subcontracting	0	0

<b>TOTAL BENEFICIARIES</b>	17	7	4	Subcontracting	28	267+Subcontracting
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**B 1.3.7:**

<b>List and schedule of milestones</b>					
<b>Milestone no.</b>	<b>Milestone name</b>	<b>WPs no's.</b>	<b>Lead beneficiary</b>	<b>Delivery date from Annex I<sup>14</sup></b>	<b>Comments</b>
1	Project website	14,15	2	End of Month 1	Verification through public response
2	Initial overview of educational resources	1,2,5	7	End of Month 3	Report on approximate coverage of content base, technical corpus analysis and search engine availability
3	Preliminary content base with publishers' data and other data	1, 5	2	End of Month 3	Successful transfer of electronic data from participating publishers in content base
4	Overview of existing research quality indicators	3	7	End of Month 3	Necessary for determining proof of concept for new indicators
5	Internal Project Website	14, 15	4	End of Month 3	
6	Workshop 1	3,4	14	Month 4	Input of scientific community for proposing and identifying new indicators
7	New Set of Research Quality Indicators	3,4	2	Month 5	Results of Workshop 1 discussions and feedback from various EERA members and member associations.
8	Successful search engine functionality	5	6	Month 5	
9	Content storage, access and IPR contracts	1, 7	2	Month 5	All publisher- or author-provided data in the aggregate content base is covered by adequate usage and access agreements for research purposes
10	Internal communication system for consortium	14	4	Month 3	This will facilitate communication and ease of data/ report handling within the consortium
11	Aggregate content base complete except for updates	1, 5, 6	2	Month 9	Attempt to attain full coverage of all electronically available publications on educational research with frequent updates from Internet robot & publishers
12	Testing phase begins, research implementation and prototyping operations	6, 8	2	Month 5	Functionality of query engine and conversion tools has been verified and testing of new indicators with proof of concept begins applied to aggregate content base

<sup>14</sup> Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

13	Half-way mark in testing	5, 6, 8, 9	2, 5, 6	Month 18	Preliminary evaluation of results and possible proof of concept or query engine adjustments
14	Completion of refinements to query engine	5, 6, 8, 9	5,6	Month 30	
15	New indicators set and methodologies ready for presentation & verification by scientific field	6,8,9,10,	2	Month 30	
16	Workshop 2 – Presentation to and validation by scientific community; demonstration of proof of concept through transfer of methodology to another social science field	10, 12	18, 1, 7	Month 30/32	
17	Presentation / Discussion of preliminary sustainability scenarios	11	2	Month 30/32	Participation of publishers, funding agencies and other relevant stake-holders in research evaluation
18	Final Workshop to present EERQI results to public	13	1	Month 34	
19	Guidelines for transferring EERQI indicators & methodologies to other social science fields	12	7	Month 36	
20	Successful completion of the EERQI Project	all	1	Month 36	Dissemination of reports, advertisement of EERQI public website, Presentations at relevant conferences & to institutions for research evaluation
21	Presentation of viable sustainability plan, possibly proposing an organisational framework ...	11	2	Month 36	Favourable acceptance of framework & interest in pursuing manifestation of EERQI sustainability plan

Reviews will be synchronised with ends of project reporting periods. A tentative schedule is given in the following table:

<b>Tentative schedule of project reviews</b>			
<b>Review no.</b>	<b>Tentative timing, i.e. after month X = end of a reporting period<sup>15</sup></b>	<b>planned venue of review</b>	<b>Comments , if any</b>
<b>1</b>	After project month: 12		
<b>2</b>	After project month: 24		

<sup>15</sup> Month after which the review will take place. Month 1 marking the start date of the project, and all dates being relative to this start date.



3	After project month: 35		
...	.....		

## B.2. Implementation

### B.2.1. Management structure and procedures

The consortium proposing EERQI project suggests three levels of management:

- **The Steering Committee;**
- **The Project Coordinator** supported by **the Project Office** consisting of the **Technical Coordinator** and the **Project Manager (who also acts as a Content Coordinator);**
- **The Work Package Leaders** who are responsible to the Project Coordinator and the Project Manager, as well as additionally to the Technical Coordinator according to the task of the work package.

The **Steering Committee** will be the ultimate decision-making body of the consortium. It will be made up of one representative from each partner, as well as 3-4 outside advisors in the fields of research quality, assessment of scientific publications and electronic publishing and the technical aspects of the project. The outside members will be chosen by the consortium Steering Committee and will be approached in the final negotiation phase of the project with the EC (See Annex to Section B: List of external advisors and possible further experts). The Steering Committee will meet at the beginning of the Project and once a year thereafter in context of the workshops to discuss and approve of the implementation plans, budgetary issues, review progress of the project and approve of any changes to the original proposal as it is negotiated with the EC. It will also make suggestions and approve the dissemination plan. In the case of approval of this EC proposal, the Steering Committee is responsible for allocation of the project budget, preparation and final approval of all implementation plans for the project, as well as for all project publications. The external advisors will receive materials for the project in advance of the beginning of the project for comment and for discussion at the beginning of the Project. They will also be involved in the first and second workshop and in the testing phase for verification of the resulting indicators.

The **Project Coordinator** is the current president of the European Educational Researchers Association (EERA) located at the University of Hamburg, Institute of International Comparative and Intercultural Education. She will oversee all activities of the project, which can be divided into three sections: content, technical and management. Her responsibilities include:

- Sign the contract with the European Commission;
- Monitor the flow of information and documentation of the project progress;
- Submission of all reports to and information needed by the European Commission;
- Collect the cost and other statements, as well as financial audit certifications from the parties for submission to the European Commission, with support of the project office,
- Receive and disburse the community financial contribution from the European Commission and disburse payments to the participating institutions;
- Convene and administer meetings of the Steering Committee, of which she will be chairperson;
- Prepare and distribute minutes of the decisions made by the Steering Committee
- Oversee the administrative management of the project with support of the project office.

Responsible to the **Project Coordinator**, there will be a **Technical Coordinator** and the **Project Manager**. Each of the work packages has a **Work Package Leader** responsible for the activities and fulfilment of the work package goals. They will work closely with the **Project Manager**, and the **Technical Coordinator** to ensure smooth flowing of the project activities and timely completion of the work package goals. The participating institutions, learned societies and SMEs will provide their specific expertise as noted in the work packages to achieve the flow and advancement of the project.

The **Project Manager** has the responsibility for managing the project office and for overseeing the work in the entire project. She will ensure that work packages meet their deadlines and that project milestones and deliverables are attained. The **Project Manager** will work closely with the **Project Coordinator** in the reporting function to the European Commission, supporting her in all activities of the project. The **Project Manager** will be responsible for maintaining the financial overview of the project and for submitting necessary documents to the European Commission on time. The **Project Manager** will oversee the acquisition of adequate content for the project goals, negotiate any additional content data necessary to the project and not otherwise available to the project, maintain intellectual property rights and copyright regulations for the use and analysis of content within the project, and work closely with the learned societies and educational researcher institutions, as well as with the participating publishers in all aspects concerning the content and its use within the project. The **Project Manager** will also work closely with the **Technical Coordinator** for the project in monitoring all progress and deadlines in the project and reporting to the **Project Coordinator**, even preparing reports for the **Project Coordinator** to the European Commission.

The Institute for International Comparative and Intercultural Education of the University of Hamburg will serve as coordinating institution, with Prof. Dr. Ingrid Gogolin as Principal Investigator and **Project Coordinator**, will host the **Project Office**. This institution will provide meeting rooms and telecommunications equipment for tele- and videoconferences, as well as a half-time staff member for organisational issues connected to the project. The position of **Project Manager** will be added immediately after approval of the project funding to organize and manage the project.

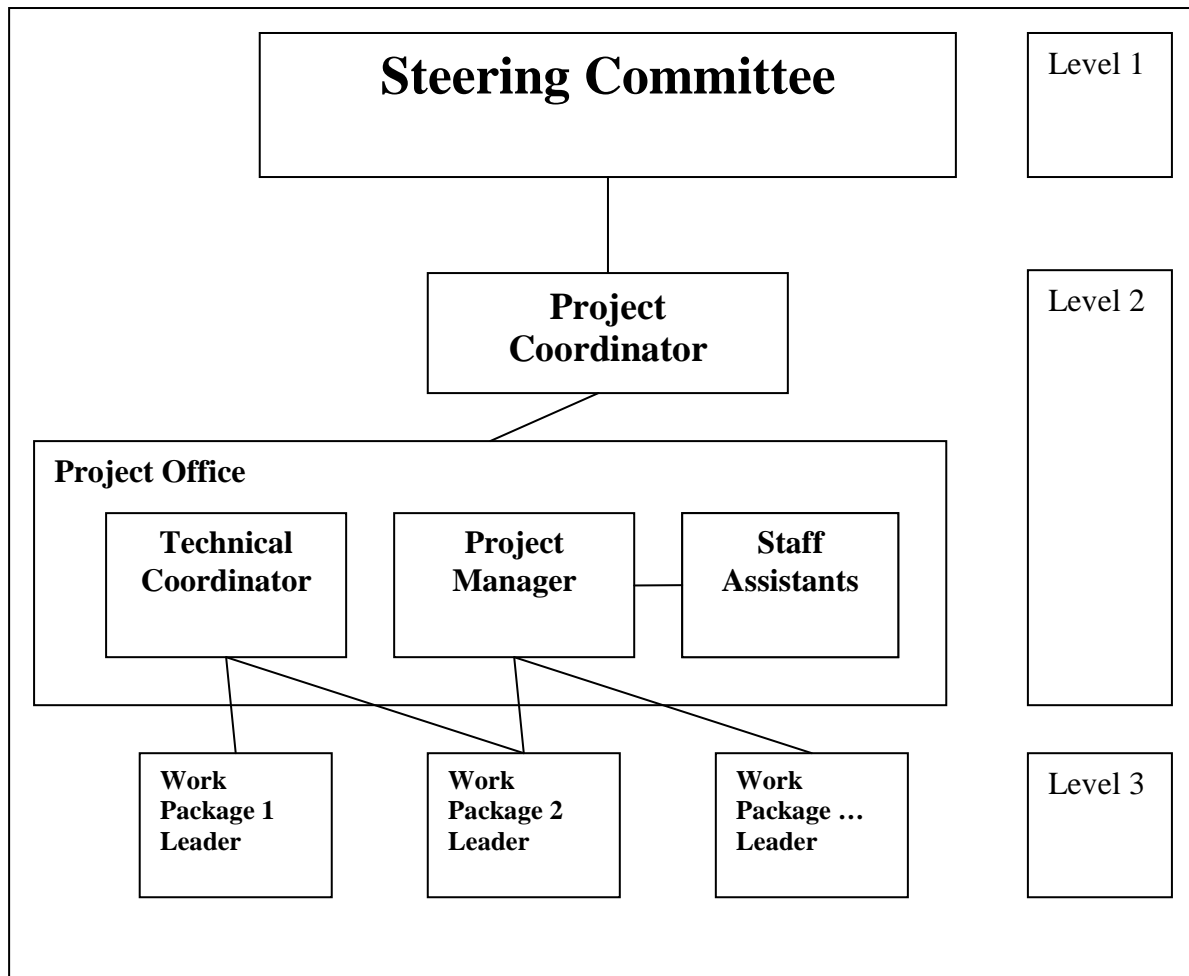
The **Technical Coordinator** will oversee all technical activities within the project, functioning as a cross-work package monitoring system, as well as a communication line. The **Technical Coordinator** may have specific technical duties within various work packages, but his main function is to maintain the advancement and flow of the technical progress within the project and function as the hub to bring information and expertise together for an optimal working environment within the technical aspects of the project. Although the **Technical Coordinator**, who was originally at the University of Hamburg Computing Center at the time of the project proposal, his professional position will change as of 1<sup>st</sup> April to the Humboldt University of Berlin. Hence, the Humboldt University of Berlin Institute of Library and Information Science and Computing Center will become Partner No. 19 in the Project through this connection. Furthermore, all computer servers for the EERQI Project will be hosted at the Humboldt University, Institute for Library and Information Science / Computing Center, and supervised directly by the **Technical Coordinator**.

All project meetings, deadlines, milestones, etc., will be captured and monitored in a project management software programme maintained at the Humboldt University of Berlin on a protected website accessible to all project partners. The maintenance of this protected website, all deadlines and dates, and other organisational matters will be carried out by the (half-time) staff member working closely with the **Project Manager**. The **Project Manager** will be responsible for maintaining effective and prompt communication between the partners, maintaining deadlines, the coordinators of the individual work packages and appropriate other persons or institutions relevant to the project. In some of the projects the **Project Manager** with the part-time **Project Staff** and the **Project Coordinator** will coordinate contact to the EERA and member associations regarding content aggregation, preparation for the workshops, dissemination and preparation of the project reports, etc.

The individual work packages will be coordinated by one of the partner institutions which will in turn be in close communication with the **Project Manager** and **Project Staff** at the central project office to update, maintain and monitor the schedules and work progress of the individual work packages. The individual **Work Package Leaders** will be responsible for the achievement of the work package milestones and goals, as well as for meeting the work package deadlines and schedules. The **Work**

**Package Leaders** will also be responsible for accurate and timely input and updates to the project management software on the central protected project website for the respective work package. Individual reports and other deliverables resulting from the various work packages will be prepared by the work package participants and overseen by the respective **Work Package Leader**. These will be submitted to the **Project Manager** and the **Project Coordinator**.

**Diagram of Management Structure**



**Diagram 5**

### ***B.2.2. Individual Beneficiaries (Partners)***

#### **Beneficiary 1: Institute of International Comparative and Multicultural Education, Department of Educational Sciences, University of Hamburg, Germany**

(Von-Melle-Park 8, 20146 Hamburg, Germany; tel: +49 40-42838-2127 fax: + 49 40-42838-3398; <http://www.erzwiss.uni-hamburg.de>; [http://www2.erzwiss.uni-hamburg.de/institute/interkultur/interkultur\\_home.htm](http://www2.erzwiss.uni-hamburg.de/institute/interkultur/interkultur_home.htm))

This Institute within the Faculty of Educational and Psychological Sciences of the University of Hamburg specializes in intercultural studies, multicultural aspects of education and social integration, as well as international comparisons in educational research. Various German and international projects are carried out by its faculty including Prof. Dr. Ingrid Gogolin, the EERQI Project Coordinator.

#### Proposed contribution to the EERQI project:

The EERQI project office will be maintained at the Institute for International Comparative and Intercultural Education of the University of Hamburg, and the Project Manager will be employed to oversee all EERQI activities and manage the project.

**Prof. Dr. Ingrid Gogolin** (<http://www.erzwiss.uni-hamburg.de/Personal/Gogolin/web/de/all/home/index.html>) is the Project Coordinator. Ingrid is professor of comparative and intercultural education at the University of Hamburg. She has trained as a teacher 1974-78, completed her Ph.D. in educational science in 1987 and attained the *venia legendi* in 1994. She has taught in various German universities and held visiting professorships in Austria, the United States, Australia and the United Kingdom. Her field of expertise lies in the education of immigrant children and youth, socio-cultural aspects of bilingual education and multiculturalism. She has published many scholarly articles, chapters and books on these topics and has directed both national and international research projects. In addition, she is a member of various expert commissions including those involved in evaluation and higher education. She has been President of EERA since 2004.

**Dr. Diann Pelz-Rusch** is the proposed EERQI Project Manager. She studied German, English and American languages and literatures, education, and library and information science at various universities in the United States and Germany (B.S. in education 1973, M.A. 1976, M.L.S. 1981, Ph.D. 1985). She has extensive work experience in the international field including at the, Knowledge Exchange Office (Copenhagen), International University Bremen, Max Planck Institute for Human Development (Berlin), and in giving various seminars in Africa and the Middle East for the Goethe Institute, as well as having held positions in various libraries, cultural institutions and a computer company. Diann teaches library science at the Humboldt University Berlin, lectures and publishes on digital libraries, library organization, institutional/subject repositories, open access, electronic publishing, metadata, citation analysis and bibliometrics, licensing and electronic resources management, and special aspects of educational resources and metadata.

#### **Beneficiary 2: European Educational Research Association (EERA)**

(EERA e.V, c/o, Free University of Berlin, Arnimallee 12, D-14195 Berlin. Tel. +49 30 83854978, Fax +49 30 838 55278, <http://www.eera.eu>, email: [office@eera.eu](mailto:office@eera.eu).)

The European Educational Research Association is an association of national educational research associations. Current members of EERA are Belgium (VFO), Czech Republic (CAPV), Denmark (NERA), Estonia (EAER), Finland (FERA and NERA), France (AECSE), Germany (DGfE), Iceland (NERA), Ireland (ESAI), Lithuania (LERA), Netherlands (VOR), Norway (NERA), Portugal (SPCE), Spain (AIDIPE and SEP), Sweden (NERA), Switzerland (SSRE), United Kingdom (BERA and SERA) Italy (SIP) and Poland which is in the formation phase and has the status of accession membership.

EERA was founded in June 1994 with the goal to promote the exchange of ideas amongst European researchers, to foster collaboration in research, improve research quality and to be able to offer independent advice on educational research to European policy-makers, administrators and practitioners. Through its activities (conferences, networks, a scientific journal European Education Research Journal) EERA promotes international and interdisciplinary cooperation between researchers, practitioners and policy makers.

Annual conferences, ECER (European Conference on Educational Research), are viewed as a European forum, aimed at developing the scientific knowledge base of education, sharing leading edge or critical policy or practice information, and creating a new space for educational research in Europe. Papers at these conferences are peer-reviewed by 27 topic-oriented networks of educational research evaluators (<http://www.eera.ac.uk/web/eng/all/networks/index.html>), which also select the conference topics they want to focus on during the following conference, in their symposia or special panels. In addition, the EERA has recently founded the European Postgraduate Association in Educational Research to promote young researchers and provide mentoring (PGN).

#### Proposed contribution to the EERQI Project:

Through its membership, including individual educational researches as well as the national research associations such as BERA, EERA will be responsible for assisting the identification of key educational resources and publishers. EERA through its President **Prof. Dr. Ingrid Gogolin** will be responsible for ensuring the validity of testing procedures as well as providing the results for scientific verification. EERA contacts will serve to disseminate copyright and intellectual property rights information and obtain feedback from the scientific community in the later stages of the project.

Prof. Dr. Ingrid Gogolin (University of Hamburg) has been President of EERA since 2004 and is envisioned as the EERQI Project Coordinator. EERA members were very instrumental in initiating this project and the project will draw upon the vast expertise of the members and national member associations of EERA.

#### **Beneficiary 3: British Educational Research Association (BERA)**

(Association House, South Park Road Macclesfield, SK11 6SH, UK; tel. +441625504062; fax +441625267879; email: [jeremy.hoad@bera.ac.uk](mailto:jeremy.hoad@bera.ac.uk); [www.bera.ac.uk](http://www.bera.ac.uk))

The aim of the Association is to sustain and promote a vital research culture in education by encouraging an active community of educational researchers, by promoting co-operation and discussion with policy makers, institutional managers and funding agencies, with other national educational research associations, international associations and the European Educational Research Association with other researchers in the social sciences and related areas of work and with teachers and lecturers and their associations by encouraging and supporting debate about the quality, purpose, content and methodologies of educational research, by developing and defending an independent research culture committed to open inquiry and educational improvement

BERA achieves its aims by enhancing the professional service it provides for its members, the effective communication and discussion within BERA; and the training and education of educational researchers, their effectiveness, conditions of work and rights.

Founded in 1974 BERA is a registered charity in the UK (UK Registered Charity Number 272754) and currently has almost 2500 members. BERA is a broad church with psychologists, sociologists, historians, and philosophers among the discipline-oriented members and a strong contingent of educationists with special interests in curriculum, pedagogy, assessment, or management and taking either a theoretical or evaluative or action-research perspective on education. It is widely agreed that the overarching research concern of these educationists is to critically inform educational judgements and decisions aimed at improving educational action. The potential audiences for both are practitioners, policy-makers and academics. Methodologically many policy/practice-focused researchers are engaged in studies of singularities (ie studies enclosed in narrow boundaries of space and time) while many discipline-focused researchers are searching for general statements. BERA aims to embrace all of these and provides opportunities at its conferences and in its publications for all to contribute.

Proposed contribution to the EERQI project:

As a key member of EERA, BERA's contribution will be coordinated by the following individuals, both of whom have long experience in educational evaluation. **Prof. David Bridges** is a member of the Councils of both the British and European Educational Research Association, served on both the 2001 and 2008 UK Research Assessment Panels for Education and is a foreign member of the Lithuanian Academy of Science. He currently is the Director of the Von Hügel Institute at St. Edmund's College of the University of Cambridge and professorial fellow at the Centre for Applied Research in Education at the University of East Anglia. **Jeremy Hoad** is the Chief Executive Officer of BERA.

**Beneficiary 4: Institute for Science Networking Oldenburg GmbH (ISN)**

(Ammerländer Heerstraße 121, 26129 Oldenburg, Germany; tel.: +49 441 798 2884; fax: +49 441 798 5851; Email: [info2008@isn-oldenburg.de](mailto:info2008@isn-oldenburg.de); [www.isn-oldenburg.de](http://www.isn-oldenburg.de))

The ISN Institute for Science Networking Oldenburg GmbH is a research and development corporation specialized in information management services for science and teaching at universities, and for other scientific institutions and libraries. It was founded in 2002 as a spin-off from the theoretical physics group at the Carl von Ossietzky University of Oldenburg and cooperates with the University in the areas of research, teaching and service exchange. ISN expertise and activities include: Development and implementation of metadata profiles for scientific and e-learning materials; development and implementation of support services for scientific publication workflow solutions, including software supported peer-review; services for complex multi-user science portal sites, including interoperability support, hosting; development and hosting of search engines for science and e-learning materials; consulting and standardization work in the above mentioned fields.

Current projects include PhysNet (<http://www.physnet.net/>): Physics Departments and Institutions Documents, Services for Physicists - a distributed, international portal, ISN developed and operates on behalf of the European Physical Society. ISN is currently in the process of implementing semantic web technologies (based on OWL/RDF) for this portal to raise the value of the information stored inside the portal and enable better service for the users. This includes development of location-based services and structuring the information and research space of European and worldwide physics institutions for easy and efficient retrieval. We provide a very similar service for the marine sciences MareNet (<http://www.marenet.de>).

Another project is the German Academic Publishing (GAP) ([http://www.ubka.uni-karlsruhe.de/gap-c/index\\_en.html](http://www.ubka.uni-karlsruhe.de/gap-c/index_en.html)): In cooperation with the library and information system of the University of Oldenburg (BIS), we have developed the publication workflow solution for the GAP consortium. The web-based "GAPworks" workflow component is a very flexible and adaptable solution for e-organizing any given peer-review and document workflow for scientific journals or digital library systems, including interfaces to commonly-used standards like OAI-PMH for metadata exchange and LDAP for user authentication and management. We are currently also working on CCSD(CNRS) (<http://ccsd.cnrs.fr/>), where we develop and implement administrative and technical interfaces for developing a European, domain-comprehensive document archive which includes provision for long-term preservation. Finally we are engaged in PhysikMultimedial (<http://www.physik-multimedial.de/> (German site)): Within the "physics-multimedial" project, we have developed and now provide hosting and support for the e-learning platform in particular for physics materials. Special efforts have been made to respect and evaluate gender specific approaches to e-learning to provide non-gender-discriminatory access to modern education.

Proposed contribution to the EERQI project:

ISN will contribute to the EERQI project working on the concept, design and installation of the internal and public project servers, development of the project web sites and modern tools for communication; maintenance of the services of the portal/project web site; establishment of online-

discussion-forums, mailing lists and collaborative services and creation of tools for analyzing of usage statistics.

The EERQI-team of ISN will be led by **Prof. Dr. Eberhard R. Hilf**, CEO of ISN, who has a strong background as former professor of theoretical physics at the University of Oldenburg, and by **Thomas Severiens**, physicist, who, in addition to his involvement at the ISN, works as a lecturer in information engineering at the University of Osnabrück. Additional staff will be employed for the EERQI project tasks.

#### **Beneficiary 5: XEROX SAS**

(6 chemin de Maupertuis, 38240, Meylan, France; tel: +33 (0)4 76 61 50 50, fax: +33 (0)4 76 61 50 99, E-mail: [info@xrce.xerox.com](mailto:info@xrce.xerox.com))

Xerox Research Centre Europe's (XRCE) primary activity is research aiming at increasing productivity in the workplace through new document technologies. While drawing on the strength of the Xerox Corporation around the world, XRCE's focus is Europe. XRCE cooperates with the scientific community and with businesses and their customers to ensure that the developed technologies are not only innovative, but also match the requirements of the market. XRCE forms partnerships, collaborates with a wide range of European research organizations, and works with the business divisions of Xerox. Its specific mission is to become a centre of excellence for the understanding of document processes and for the invention of technologies which support them. The research carried out at XRCE covers the following areas: "Data Mining", "Machine Translation", "Parsing and Semantics", "Document Structure", "Image Processing" and "Work Practices".

XRCE has significant experience in multilingualism, and has lower-level processing tools (morphological analyzers and part-of-speech taggers) available for 13 European languages. At a higher level of linguistic processing, the institution has tools for syntactic processing of German, English and French. Advanced semantic processing, i.e., named entity recognition and typing, as well as word sense disambiguation, is available for French and English, and discourse analysis tools for English. ParSem has participated and participates in European and French national projects with its expertise in all of these domains. (Vikef, CACAO, Infom@gic).

#### Proposed contribution to the EERQI project:

Core competencies relevant to the EERQI project are multilingual morphological analysis, syntactic and semantic processing and discourse analysis, which are activities carried out by the "Parsing and Semantics" (ParSem) area headed by Dr. Frederique Segond and will be brought into the project. XRCE will supply the necessary semantic/linguistic and parsing technology for the project.

**Frédérique Segond** manages the ParSem area at XRCE. She joined XRCE as a research scientist in 1993 and worked on LOCOLEX, an intelligent dictionary lookup (European project COMPASS). Within the PARGRAM (Parallel Grammars) project, she was responsible for the design and the implementation of a French lexical functional grammar. She then led the Lexical Sense Disambiguation project where she worked on the projects EAGLES, ROMANSEVAL and EuroWordNet. Frédérique obtained a PhD in applied mathematics at the Ecole des Hautes Etudes en Sciences Sociales in Paris. She has published more than 50 scientific articles and participated in three books. In addition, she is on the board of different scientific associations.

**Claude Roux** started working for XRCE in 1998. He received his PhD from the Université de Montréal (Canada) in 1996. He has a master in computer science and a PhD in linguistics. He has participated in many XRCE projects. He has been working on the implementation of the Xerox Incremental Parser since 1999, which is the core technology of the Parsing and Semantics group. He has published papers on XML technology, semantic data implementation, parsing engine, and semantic annotations. He has also been granted four U.S. patents in the field of linguistic technology.

**Ágnes Sándor** has been working at XRCE since 1996 as a research engineer. She has a PhD in general pragmatics from the University Lyon 2. Her activities have included the

construction of morphological analyzers and part-of-speech taggers for English and Hungarian. For several years, she was involved in projects concerning information extraction in the biomedical domain. At present, she focuses on discourse analysis and content extraction based on meta-discourse. She has published papers on all these fields.

**Beneficiary 6: Regional Computing Centre for Lower Saxony (RRZN)**

(Schloßwender Straße 5, 30159, Hannover, tel. +49 511.762 -3170 / -2883, fax: +49 511.762 -3003, E-mail [hotline@rrzn.uni-hannover.de](mailto:hotline@rrzn.uni-hannover.de), <http://www.rrzn.uni-hannover.de>)

The Regional Computing Centre for Lower Saxony belongs to the Leibniz University of Hanover, Germany (LUH). The University was founded in 1831, has 9 faculties, more than 23.000 students, about 2000 scientists, and 150 institutes. The main tasks of the RRZN are: Operation of powerful servers for scientific high performance computing, planning, installation and operation of communication networks at the LUH, support of decentralized information processing systems at the university institutes, planning, realization and operation of systems regarding IT security, development of innovative applications, participation in the German Grid initiative D-Grid, development, realization and operation of search engines.

The RRZN has a more than 10 years of experience in search engine technology and development. The leading German meta-search engine [www.metager.de](http://www.metager.de) has evolved at RRZN. This search engine has been in operation since 1997 and is continuously being improved through further development. It is included on the list of the TOP 20 most-used search engines in Germany ([www.webhits.de](http://www.webhits.de)). Besides meta-search engine technology, web crawling and indexing techniques have also been developed at the RRZN: the search engine [www.researchportal.net](http://www.researchportal.net) was developed in the period of 2000-2005 and is now used by the computer centre of the German Federal Ministry of Education and Research. Furthermore, many small-scale search engines for special topics have been developed and are in operation. All this work has been carried out by the group „SearchEngineLab“ ([www.rrzn.uni-hannover.de/suchmaschinen.html](http://www.rrzn.uni-hannover.de/suchmaschinen.html)).

In addition to search engine techniques, several assisting Internet tools have been developed and operated by the SearchEngineLab, one of which is the “Web Associator”. It investigates the word environment of the search terms and suggests related words and synonyms completely automatically generated from the web documents to the user. The results of the SearchEngineLab have been presented in numerous publications, presentations and speeches, as well as in TV and radio broadcasts.

Proposed contribution to the EERQI project:

**Dr.-Ing. Wolfgang Sander-Beuermann** will lead the EERQI work package No. 5 (Search Engine Development) at RRZN is the head of the SearchEngineLab since 1997. He has held numerous speeches about search engines i.e. as invited speaker at the 7th German-American Frontiers of Engineering Symposium, held by the Alexander von Humboldt Foundation: "The State of the Art of Searching the Web" in Washington D.C. from 28.4.-1.5.2004 and published about the subject such as for the Proceedings of the Internet Summit of the Internet Society (ISOC): "The Further Development of Meta-Search Engine Technology", Geneva, 21.-24.7.1998.

**Beneficiary 7: Deutsches Institut für Internationale Pädagogische Forschung**

(Schloßstr. 29, D-60486 Frankfurt, Germany; Tel.: +49 69 24708-330, Fax: +49 69 24708-328, Internet: <http://www.dipf.de>)

The German Institute for International Educational Research (DIPF) is a documentation, support, advisory and research centre with national and European interests. The “Informationszentrum Bildung” (Centre for Information on Education), one of five work units, has a unique nationwide position as provider of bibliographic and internet information services to educational researchers and



practitioners. Products like "Deutscher Bildungsserver/German Education Server" and "FIS Bildung Literaturdatenbank" are standard services for the whole German speaking area, and they are a gateway for foreign users to the German education system. DIPF is currently conducting a national bibliometric project "Innovative bibliometric approaches for continuous observation of social sciences publications" (2007-2009) funded by the German Research Foundation (DFG).

Proposed contribution to the EERQI project:

DIPF will support EERA by supplying its contacts in the field of educational science, conduct research on evaluation indicators in similar projects and evaluation bodies, and write a report on the findings (WP 3). In WP 8 DIPF will provide various basis scenarios and experience with content clustering and will assist in integrating available language concordances and negotiate electronic rights for including European languages in the search engine. DIPF will be involved in the determination of the transferability of the project to a further field in the social sciences (WP 12).

**Alexander Botte**, Deputy Director, Information Centre Education (including responsibility for German national Database FIS-Bildung). Alex is a former teacher and was trained as a scientific documentalist. He is now deputy chief of the Department "Information Centre: Education" at DIPF. Since 1979, he has been working with bibliographic databases on educational topics and since 1992 he has been project manager of the German Education Index, a cooperative initiative of more than 30 documentation units of research and higher education institutions in the German-speaking countries. Since 1999, Alex has also been project manager of the German Education Server, an online portal for educational research and practice. He has been involved in the Network 12 "Information Services and Libraries" since 1998 and has been personally involved in bibliometrics projects since 2003. Publications include "Achievement or performance: observation of productivity of educational research by bibliometric tools. A state-of-the-art-report", paper presented at the European Conference on Educational Research, University of Crete, 22-25 September 2004, (<http://www.leeds.ac.uk/educol/documents/00003714.htm>).

**Prof. Dr. Marc Rittberger**, Director, Information Centre Education. Marc has studied physics and information science and has his main research interests in the field of information retrieval and information quality. He is President of the "Academic Association of Information Science" in Germany. He started working in the field of specialized information in 1985. After heading a technology transfer center in Konstanz he had a professorship at the Heinrich-Heine University of Düsseldorf in 2002. He taught information science at the HEG Genève for three years until 2005. Since 2005, he holds a professorship at the Applied University of Darmstadt in the field of information management. Marc is deputy director of the DIPF and besides the Information Centre: Education he heads the Libraries of History of Education and Educational Research at the DIPF. Publications: Rittberger, Marc: Vertrauen und Qualität in Informationsdienste. In: Hammwöhner, R., Rittberger, Marc, and Semar, W. (eds.): Wissen in Aktion. Konstanz: UVK Verlagsgesellschaft (2004), pp. 153-165.

**Beneficiary 8: Eindhoven School of Education, The Netherlands**

(Campus TU/e, Traverse 3.41, P.O. Box 513, 5600 MB Eindhoven, the Netherlands ; tel.:+ 31 40 2473095; fax: + 31 40 2473579; email: [info@esoe.nl](mailto:info@esoe.nl); [www.esoe.nl](http://www.esoe.nl))

Eindhoven School of Education is a recently founded joint institute of Fontys University of Applied Sciences and Eindhoven University of Technology. It is active in three fields. It offers MSc programs in physics education, in mathematics education, in chemistry education and in computer science education. Additionally, a new two year MSc program in science education and communication is under construction. ESoE does scientific research in the field of educational sciences, and more specifically the innovation of education. Finally, the institute supports and promotes educational innovations in educational institutions through consultancy and joint projects with a focus on science and technology education.

The research program of ESoE, titled Professional Learning, distinguishes two themes. The first is professional teacher development. Teacher training does not go much further than the so-called initial

competency that enables the beginning teacher to make a reasonable start in his or her profession. Expertise development only takes place in the practice of teaching and is based on experiences. As it does not take place automatically, expertise development has to be supported. Therefore, the question is how the development of teachers from novices into experts in education can be promoted based on the principle of learning on the working place. The research also aims at developing general guidelines, methods and materials that promote or support the process.

The second theme is education in science and technology. As expertise development of teachers is strongly related to the content and the way in which this content is handled in a pedagogical sense, this theme is a specification of the first theme as the general insights, concepts, research methods and instruments find a specific application in the teaching of science and technology. All kinds and levels of science and technology education are included. At this moment, 3 full professors, 2 associate professors, 4 assistant professors and 24 full time PhD-students are involved in the research program.

#### Proposed contribution to the EERQI project:

ESoE will support the efforts of EERA by supplying contacts and relevant experience. The senior researcher that will be involved is Dean of ESoE **Prof Dr. Wim Jochems** a very experienced educational researcher with a large number of international scientific publications. He also participates in research organizations like the Netherlands Educational Research Association and the European Educational Research Association. Besides, he acts as reviewer for in international scientific journals.

#### **Beneficiary 9: ITS, Radboud University, Netherlands**

(Toernooiveld 5, NL, 6525 ED, Nijmegen; tel.: + 31 243653558; fax: + 31 243653599; email: [ton.mooij@ou.nl](mailto:ton.mooij@ou.nl); [www.its-nijmegen.nl/](http://www.its-nijmegen.nl/))

ITS is an independent institute, connected to Radboud University in Nijmegen (The Netherlands). The professional activities of ITS concern social scientific research, policy advice, company research, and knowledge transfer, utilising most advantaged research methods including ICT. The Institute accumulates expertise based on more than 40 years of research and development experience in education, healthcare, labour, mobility, social security, and data collection and analysis. ITS is a non-profit organisation and provides clear agreements about approach, budgets, and deadlines. The setting up and carrying out of an assignment are both arranged in close consultation with the client. ITS also is an agreeable and reliable partner in different types of international research and collaborative ventures.

The Institute employs researchers with both broad expertise as well as various types of specialisations. Some 40 qualified staff with varying backgrounds work at ITS (mainly psychologists, sociologists, educationalists, linguists, health scientists, social geographers, historians). If necessary, their expertise is augmented through collaboration with colleagues in organisations closely linked to ITS. The Institute has its own data processing department for the collection and processing of data (i.e. by telephone or the internet).

#### Proposed Contribution to EERQI:

Radboud University (ITS) will contribute its expertise in content and contextual analysis. The senior researcher to be involved in the EERQI-project is **Prof. Dr. Ton Mooij**. He is an educational research manager at ITS and a professor of educational technology at the Open University of The Netherlands (Heerlen). His interests concern the development and research of integrated educational, organisational, and ICT conditions, to improve learning processes and effects or outcomes in and around schools. In 1998, Ton Mooij was a co-founder of the international research network 'ICT in education and training' of the 'European Educational Research Association' (EERA). Since then he has also been the chairman of this network. He also participates in various other types of scientific networks. Furthermore, in The Netherlands, he is, for example, the project leader of the national monitor on school safety (participation in 2006: 81.000 secondary pupils, 6.900 teachers and staff, and 600 school managers). He has published in many international and national journals and books.

**Beneficiary 10: Routledge, Taylor & Francis Publishing**

(4 Park Square Milton Park Abingdon Oxfordshire OX1 44RN, UK; tel.: +44 (0) 20 7017 6000 fax: +44 (0) 20 7017 6336, [www.informa.com](http://www.informa.com)).

Routledge, Taylor & Francis Group are the academic publishing division of the informa Group, who employ over 7,000 people in offices spread in over 40 countries. They are a global information supplier for the academic, professional and commercial markets.

Routledge, Taylor & Francis Group publish over 1,800 new books each year and 1,300 academic journals, with a books backlist in excess of 20,000 specialist titles. These publications cover a wide range of subjects from the hard sciences through to the social sciences. The science publications are published under the Taylor & Francis imprint, whilst the social sciences are published under Routledge. All the psychology journals and book are published under the Psychology Press imprint.

**Proposed contribution to the EERQI project:**

Routledge, Taylor and Francis will supply the project with the delivery of relevant full texts and access to relevant electronic metadata for EERQI and participate in delineating the legal issues, as well as contribute to the EERQI Sustainability Plan.

**Graham Hobbs** will be the main contact for the EERQI Project. Graham is Editorial Director for the Education and Arts & Humanities journals and is based in the Routledge offices near Oxford in the UK. He has over 30 years experience in publishing and has previously worked for Carfax Publishing Company and Blackwells.

**Beneficiary 11: Symposium Publishing**

(PO Box 204, Didcot Oxford, UK, OX11 9ZQ, tel.: +44 1235 817 956, fax: +44 1235 817 275, email: [rok@symposium-journals.co.uk](mailto:rok@symposium-journals.co.uk), [www.symposium-journals.co.uk](http://www.symposium-journals.co.uk))

Symposium Journals based in Oxford is a pioneer in the publication of online-only academic journals, i.e. journals that have no printed editions but otherwise have the same aims, traditions, standards, and appearance of conventional journals.

Although virtually every printed journal now also has an electronic version, the mindset involved with all participants is still that of the printed edition as the primary one with the e-version being merely an archive collection of its articles. That archive of articles exists and is accessible, yet it is not designed to be the sole source of information and content relating to the journal.

It is an acknowledged fact that most usage of any journal is now via its online edition, and that demand for the printed edition may at some time decline to the point where continuing with the printed edition may not be worthwhile for either producer or consumer. However, when that happens it will not be a matter of simply ceasing with the print editions and continuing unchanged with the e-versions as they presently exist..

The primary problem (and there are many others) is that if a printed journal were to cease and then continue with the present style of e-version being the sole source of content, then the journal would tend to lose its individual identity and its users' loyalties, and instead have its content 'lost' within one single database, i.e. the archive of data from all the journals of the content provider.

So, without changing any of the tried-and-tested fundamental principles of how a journal 'works', Symposium Journals launched five new online-only journals starting in 2000, where what is on their website ([www.symposium-journals.co.uk](http://www.symposium-journals.co.uk)) is the total of what exists for each journal.

The guiding principle has been that each journal should be a self-contained, user-friendly website that can be browsed as much like a print journal as possible, where practicality and journal identity is

uppermost and where a sense of belonging, subscribing, and contributing can be fostered. Both producer and user must start again from zero from every angle – and be prepared to learn new skills, and recant old beliefs, every day.

Proposed contribution to the EERQI project:

Symposium will supply the project with the delivery of relevant full texts and access to relevant electronic metadata for EERQI. Other publishers will be contacted to further increase the content base. Symposium Journal's publisher, **Roger Osborn-King**, has been involved in publishing for almost 40 years. After a few years at Blackwell's Bookshop, Oxford, he worked for two years in Copenhagen for Munksgaards Forlag. He subsequently returned to Oxford, spending the next ten years working for what is now Wiley-Blackwell Publishers. Two of those years were spent in the Edinburgh office. Later he became the publisher and co-owner at Carfax Publishing, then publishing one journal. After sixteen years, and about eighty journals later, Roger left Carfax to create first Triangle Journals (now owned by Routledge) and, more recently, Symposium Journals.

**Beneficiary 12: VS-Verlag für Sozialwissenschaften**

(Abraham-Lincoln-Str. 46, 65189 Wiesbaden, Germany; tel.: +49 611.7878-368; fax +49 611.7878-453; Email: [reinald.klockenbusch@vs-verlag.de](mailto:reinald.klockenbusch@vs-verlag.de); <http://www.vs-verlag.de>)

VS-Verlag für Sozialwissenschaften is the leading publisher in the social sciences in the German-speaking realm with more than 400 new publications each year. The program includes the fields of sociology, political science, communication studies, educational science, and social work. A number of renowned scholarly journals, such as the *Kölner Zeitschrift für Sozialpsychologie*, *Zeitschrift für Politikwissenschaft*, *Publizistik*, *Zeitschrift für Erziehungswissenschaft*, and *SozialExtra*, are also part of the publisher's repertoire.

VS-Verlag für Sozialwissenschaften was created 2004 by merging two traditional social science publishers, Westdeutscher Verlag (founded in 1947) and Leske+Budrich (founded in 1974). VS Verlag für Sozialwissenschaften is a company in the specialist publishing group Springer Science+Business Media.

Proposed contribution to the EERQI project:

VS-Verlag für Sozialwissenschaften will supply the project with the delivery of relevant full texts and access to relevant electronic metadata for EERQI. Other publishers will be contacted to further increase the content base. **Dr. Reinald Klockenbusch**, Director Publishing Program, VS-Verlag, will be involved in the EERQI project. He has a Ph.D. in the social sciences and has experience in the field of social sciences, as well as in electronic publishing.

**Beneficiary 13: Umeå University, Department of Child and Youth Education**

(901 87 UMEÅ, Sweden, tel.: +46 90-786 6443; fax: +46 90-786 6511; email: [liselott.engstrom@educ.umu.se](mailto:liselott.engstrom@educ.umu.se))

As members of research councils, editors, referees of scientific journals and employment committees, the three senior researchers have extensive experience of assessing scientific quality within their different fields of expertise, in Great Britain and Sweden. The team from the Faculty of Teacher Education that next to the three senior researchers also includes a graduated junior researcher as well as a reference group of 20 faculty members representing a wide range of subfields within research on teacher education and teacher profession.

Proposed contribution to the EERQI project:

The main task lies in WP 4 and 10 and will pertain to the specification of new quality assessment indicators and methods, verification of results.

**Prof. Lisbeth Lundahl** from the Department of Child and Youth Education, Special Education and Counselling, vice rector of Umeå University with special responsibility for quality assurance and development will lead this endeavour. Lisbeth is also Secretary General of European Educational Research Association (EERA). Her main fields of research are Swedish and comparative education politics, politics of youth, and school-to-work transitions.

**Prof. Brian Hudson** is professor at the Department of Interactive Media and Learning and core group member of the Umeå Centre for Research in Mathematics Education. Prof. Hudson is also main convenor of the Didactics, Learning and Teaching Network of the European Educational Research Association (EERA). Main fields of research: ICT and learning, mathematics education and comparative education on didactics, learning and teaching.

**Prof. Per-Olof Erixon** is professor at the Department of Creative Studies is a member of the Committee of Educational Sciences within the Swedish Research Council and has for several years been editing Swedish, as well as international journals. His main field of research is teaching language and the aesthetics in a multimodal and media society.

#### **Beneficiary 14: European Association for Research on Learning and Instruction (EARLI)**

(Dekenstraat 2, Box 3772, B-3000 Leuven, Belgium; tel. +32 16 32 63 60; fax +32 16 326360; <http://www.earli.org>; [goele.nickmans@ped.kuleuven.be](mailto:goele.nickmans@ped.kuleuven.be))

EARLI is a European network that covers research into learning, development and instructional processes in, or relevant to, educational and instructional settings. Within the Association, research which is aimed at relations between instructional and learning process is the main focus. EARLI consists of 20 Special Interest Groups (SIG) that represent a group of researchers who study one or more aspects of the field of learning. The Association also harbours a network for junior researchers (JURE). Through its activities: several conferences, workshops, the publication of 2 scientific journals, a book series and the publication of position papers, EARLI promotes both international and interdisciplinary cooperation between researchers, practitioners and policy makers. EARLI currently has 1220 EARLI members and 219 JURE members, all of whom receive the two EARLI journals: Learning and Instruction and Educational Research Review, which contain high quality educational research articles. Learning and Instruction is a multi-disciplinary journal for advanced high-quality research in the areas of learning, development, instruction and teaching (<http://authors.elsevier.com/JournalDetail.html?PubID=956>). The journal has an impact factor of 1.617. Educational Research Review is an international journal addressed to researchers and various agencies interested in the review of studies and theoretical papers in education at any level (<http://ees.elsevier.com/edurev/img/jnlinfom.htm>).

#### Proposed contribution to the EERQI project:

EARLI will coordinate Work Package 4 and be responsible for preparing the first workshop to determine the new research quality indicators and methods to be tested in the major phase of the EERQI project. For this work, a junior researcher will be employed under the supervision of Prof. Dochy and Prof. Säljö.

**Prof. Dr. Roger Säljö** (current President of EARLI, Göteborg University, Sweden) Roger Säljö is professor of education and psychology of education at Göteborg University. He specialises in research on learning, interaction and human development from a socio-cultural perspective. He has been President of EARLI from August 2005 until August 2007. Much of his work is related to issues of literacy and digital technology. He has published about 275 scholarly articles, chapters and books.

**Prof. Dr. Pietro Boscolo** (President-elect of EARLI, University of Padova, Italy) Pietro Boscolo is professor of Educational Psychology at the Faculty of Psychology of the University of Padova (Italy) since 1975. His academic experience includes being director of the department of developmental and socialization psychology and of the PHD program in developmental psychology. He has been director of the undergraduate student program in Developmental and Educational Psychology since 1998. His research focuses on motivated learning in specific domains, especially the relationships between cognitive and motivational aspects in the learning of subjects at various educational levels, including higher education.

**Prof. Dr. Filip Dochy** (Managing director of EARLI, University of Leuven, Belgium) Filip Dochy studied Educational Psychology, Physical Education, Law and Educational Policy at the Universities of Gent and Leuven (Belgium). He received his Ph.D in Educational Technology in 1991. He is currently professor at the Centre for Research on Teacher Training and Training Methodology and the Centre for Research on Human Development and Professional Training at the University of Leuven and is also special professor of research into Educational Innovation & Information Technology at the University of Maastricht (The Netherlands). He is a member of the Dutch and Belgian Schools of Educational Research and is manager of EARLI.

### **Beneficiary 15: Institut de Recherche et de Documentation Pédagogique (IRDP)**

(Faubourg de l'Hôpital 43, Case postale 556, CH-2002 Neuchâtel, Tél +41 32 8898601, Fax +41 32 8896971, [www.irdp.ch](http://www.irdp.ch) )

L'Institut de Recherche et de Documentation Pédagogique (IRDP) est une institution de la Conférence intercantonale d'Instruction publique de la Suisse romande et du Tessin (CIIP). L'IRDP contribue à la coordination des politiques de recherche en éducation en Suisse latine. A ce titre, il réalise de façon récurrente un inventaire critique de la recherche en éducation, permettant de tenir à jour une cartographie des recherches romandes et tessinoises. Spécialisé dans le domaine de l'évaluation, l'institut s'appuie sur un large réseau dans les pays francophones, dans la mesure où il héberge le secrétariat de l'Association pour le Développement des Méthodologies d'Evaluation en Europe (ADMEE). Son service de documentation possède un fonds documentaire pluridisciplinaire en sciences de l'éducation et diffuse une veille documentaire qui recense des informations d'actualité dans les domaines prioritaires de l'IRDP et de la CIIP. Il est en collaboration avec l'INRP (Institut National de Recherche Pédagogique) à Lyon en France.

Personnel concerné par le projet EERQI: **Elisabetta Pagnossin**, collaboratrice scientifique, responsable de l'inventaire critique de la recherche à l'IRDP et **Isabelle Deschenaux**, responsable du service de la documentation de l'IRDP. Par rapport à l'engagement total, il est prévu de réserver un soutien administratif de 25%, afin de pouvoir assurer les contacts avec les institutions francophones, tandis que les 75% restant seront utilisés pour l'engagement d'un chercheur.

L'IRDP entend participer à ce projet en tant que double relais: par rapport au monde francophone, d'une part et à la Conférence des Universités Suisses de l'autre. Dans sa première fonction, l'IRDP pourra contribuer à identifier dans le monde francophone (France, Suisse, Belgique et Québec) les ressources documentaires existantes et pertinentes en sciences de l'éducation (WP 1) et participer à sa digitalisation. Par la même, l'IRDP pourra contribuer à relever les principales méthodes d'analyse et d'évaluation en cours dans le monde francophone (WP 3). Fort de ce corpus francophone et des contacts avec les milieux concernés, l'IRDP sera en mesure de participer à la définition de nouveaux indicateurs de qualité et méthodes pour la recherche en éducation (WP 4). Il pourra intervenir dans la phase d'adaptation à l'environnement multilinguistique européen par l'analyse des thésaurus et concordances (WP 9) voire étudier l'extension à d'autres langues que celles initialement prévues (Italien). L'IRDP sera également disposé à mettre à disposition son réseau afin de participer à la validation des indicateurs dans le cadre du deuxième atelier.

Dans sa deuxième fonction, l'IRDP a d'ores et déjà établi un contact avec la Conférence des Universités Suisses qui prévoit de lancer un projet similaire en sciences humaines et qui serait d'accord de considérer les sciences de l'éducation comme étude de cas pilote, si le projet EERQI devait se réaliser.

Personne de contact: Matthis Behrens, directeur ([matthis.behrens@irdp.ch](mailto:matthis.behrens@irdp.ch)) Also working on the EERQI Project is **Eva Roos**, MA (linguistics and ethnology) who has worked in the field of applied linguistics (second language learning, bilingualism and multilingualism). She has been at the IRDP since 2007 and is in charge of diverse evaluation projects, mostly linked to language issues.

In addition, Valérie Sauter, MA (human geography and sociology) has been employed especially for the EERQI Project. She has worked on a National Research Program (NRP 54) as scientific collaborator at the University of Neuchâtel. At the IRDP she will use her experience in various evaluation projects, as well as her multilingual abilities to carry out the research in French and German.

### **Beneficiary 16:      Lund University, University Libraries**

(Tornavägen 9a, 22100 Lund; tel: +46 462221530; fax: +46 462223682 Email: Fredrik.Astrom@lub.lu.se; <http://www.lu.se>).

Lund University is one of the largest institutions in northern Europe with about 42,000 students. It is a comprehensive university with both a large medical school and a well-known technical university. The Lund University Libraries are organized in a network with most of the project and development activities focused in the head office. In the business area of scientific communication of the head office, research and development is carried out in bibliometrics, open access and electronic publishing. The head office is also the host of DOAJ, the Directory of Open Access Journals, and has also recently developed a new institutional repository software, LUR, Lund University Repository.

The institutions has extensive experience in quantitative analyses comparing and merging word and citation analyses for research field mapping purposes; as well as developing and operationalizing science studies theories for analyzing research fields in terms of e.g. rhetorics and terminology – though primarily on a qualitative level.

#### Proposed contribution to the EERQI project:

Lund University, University Libraries' contribution to the EERQI project focuses on WP 8 primarily and will consist of analysis of structures identifiable in co-word analyses and their relation to co-citation structures, and relating citation and terminological structures to wider issues within the organization of research fields (i.e., science studies theories), as well as to citation theory. One important aspect to take into account when relying on languages is the lack of homogeneous terminological structures in the social sciences and humanities. The instability of languages has been a main issue when comparing co-word and co-citation analyses, and this is most certainly applicable in the social sciences and the humanities.

**Fredrik Åström** obtained his PhD in Library and Information Science at Umeå University in 2006 with a thesis on the social and intellectual development of library and information science. He has since been working with informetric analyses such as co-citation and co-word analyses for the purpose of mapping and visualizing social and cognitive structures of research fields. Åström is currently working as lecturer at the Department of Cultural Sciences, Lund University, but will shortly move on to his post doctorate project on the visualization of research fields, which will be localized at the head office of the Lund University libraries.

**Håkan Carlsson** received his Ph.D. 2003 and since 2006 is Director of Scientific Communication at the Lund University Libraries. Carlsson served as Assistant Professor in Chemistry until August 2006 when he became responsible for Open Access activities, electronic publishing and bibliometrics at the head office of Lund University Libraries. He is responsible for the implementation of the Lund University Open Access policy, which includes maintaining and improving the repository services at Lund. He is also a national speaker on concepts of Open Access, institutional repositories and bibliometrics, and is intensely involved in research in the area of bibliometrics.

Both Carlsson and Åström have published extensively on the topic such as:

Åström, F & Pettersson, L (2006). Mapping activities of artists in the past: A bibliometric study of the library of the Scandinavian Association in Rome to 1870. *Libraries and Culture*, 41(2), 219-232.

Persson, O. & Åström, F. (2005). Most cited universities and authors in Library and Information Science 1990-2004. *Bibliometric Notes*, 7(2)

Åström, F. (2002). Visualizing Library and Information Science concept spaces through keyword and citation based maps and clusters. I: Bruce, Fidel, Ingwersen & Vakkari (red.) *Emerging frameworks and methods: CoLIS4*. Greenwood: Libraries Unlimited, 185-197.

### **Beneficiary 17: Wiley-Blackwell Publishing**

(9600 Garsington Road, Oxford OX4 2DQ, UK; tel: +44(0) 1865 476219  
fax: +44(0) 1865 714591; [www.blackwellpublishing.com](http://www.blackwellpublishing.com)); Contact: [Rebecca.bailey@wiley.com](mailto:Rebecca.bailey@wiley.com).

Blackwell Publishing was founded in 2001 by merging Blackwell Publishers (founded in 1926) and Blackwell Science (founded in 1939). Today Blackwell Publishing is the world's largest privately owned, independent, academic publishing company and a major society publisher, partnering with 665 academic, medical, and professional societies. The company publishes books and journals for the higher education, research and professional markets. Blackwell publishes 850 journals and, to date, has over 6,000 books in print. The company has over 1,000 staff members in offices in the US, UK, Australia, China, Denmark, Germany, Singapore and Japan. New technology is embraced to streamline production processes, deliver content directly to readers, and improve the research experience.

#### Proposed contribution to the EERQI project:

Wiley-Blackwell will supply the project with the delivery of relevant full texts and access to relevant electronic metadata for EERQI. Other publishers will be contacted to further increase the content base. **Vicki Whittaker** is Associate Editorial Director of Humanities and Social Sciences Journals at Blackwell Publishing. She has particular responsibility for the Education journals program. As of March 2008, Ms. **Rebecca Bailey**, Associate Journal Publishing Manager, Social Sciences and Humanities, is the contact person for the EERQI Project. Wiley-Blackwell will also be participating significantly in the discussions surrounding the EERQI Sustainability Plan.

### **Beneficiary 18: Swiss Society for Research in Education (SSRE) - Schweizerische Gesellschaft für Bildungsforschung, (SGBF)**

(c/o Schweizerische Koordinationsstelle für Bildungsforschung, Entfelderstrasse 61, CH-5000 Aarau, Tel. +41 62 835 23 90, Fax +41 62 835 23 99; [matthis.behrens@irdp.ch](mailto:matthis.behrens@irdp.ch); [www.sgbf.ch](http://www.sgbf.ch))

Die Schweizerische Gesellschaft für Bildungsforschung wurde 1975 gegründet und zählt ungefähr 500 Mitglieder aus allen bildungsrelevanten wissenschaftlichen Disziplinen. Sie ist Mitglied der Schweizerischen Akademie für Geistes- und Sozialwissenschaften (SAGW) und der European Educational Research Association (EERA). Sie publiziert die Schriftenreihe Explorations/Explorationen beim Verlag Peter-Lang und ist Herausgeberin der dreisprachigen Schweizerischen Zeitschrift für Bildungswissenschaften. Im Rahmen einer kürzlich durchgeführten OECD/CERI-Review „Educational Research and Development in Switzerland“ wurde die Rolle der SSRE/SGBF bestätigt. Als Reaktion auf diesen Bericht werden am Kongress 2007 (September) erste Hearings veranstaltet aus welchen dann eine Arbeitsgruppe entstehen soll, die den Kongress 2008 vorbereitet. Thema wird die Bestandsaufnahme der Bildungsforschung in der Schweiz und deren Qualität sein.

#### Vorgesehene Beteiligung am EERQI Projekt:



Im Rahmen des Kongresses ist eine Beteiligung an der Entwicklung von neuen Qualitätsindikatoren vorgesehen (WP 4). Weiter soll die Frage von Qualitätsindikatoren in einem multikulturellen Rahmen debattiert werden. Damit ist die SSRE/SGBF bereit, im Rahmen ihrer wissenschaftlichen Arbeit sowie zur Förderung der Qualität der erziehungswissenschaftlichen Disziplin, im Projekt EERQI bei der Anpassung an ein multilinguales Environment im Rahmen der Schweiz (WP 9), sowie zur Validierung von Projektergebnissen durch die wissenschaftliche Community (WP 10) mitzuwirken.

**Matthis Behrens**, Präsident der SSRE/SGBF, **Thérèse Thevenaz**, Redaktorin der Schweizerischen Zeitschrift für Bildungswissenschaften werden an EERQI mitarbeiten. Zur Arbeitsaufteilung ist vorgesehen, dass das Sekretariat des Präsidiums eine organisatorische Unterstützung von 30% leistet. Die restlichen 70% der Forschungsarbeit werden von der Redaktion über eine zu erweiternde Redaktionsassistentin geleistet. Das Präsidium sowie Redaktion werden mit den Organisatoren des Kongresses 2008 eng zusammenarbeiten.

**Beneficiary 19: Institute of Library and Information Science, Humboldt-University of Berlin (HU-Berlin), Germany**

(Institut für Bibliotheks- und Informationswissenschaft, Unter den Linden 6, D-10099 Berlin, Germany; tel: +49 30-2093-4236; fax: + 49 30-2093-4242; <http://www.ibi.hu-berlin.de>)

Humboldt University in Berlin is one of the most prestigious institutions in Germany in the field of the Social Sciences and Humanities – actually, “humanity and scholarship” is point number one among the 14 points of its mission statement. The Institute of Library and Information Science of the Humboldt University (IBI) in turn is the oldest school of library science in Germany. It is the only library school at a research university in Germany and the only German institution with the right to give a doctorate in library and information science.

Originating from a far more traditional library program the IBI is a new creation currently in the course of (re-)defining its mission. In line with the overall mission of Humboldt University, Michael Seadle, the director of the institute, recently suggested a mission statement such as “Excellence in scholarship, research and teaching through a culture of inquiry and analysis that mediates the connections between libraries, information, technology and people.” And such an overall goal would then result in specific topics of work such as the following

- To bring scholarship about the latest information technology and technology trends into the classroom.
- To provide students with a basis for work in both the digital and traditional aspects of contemporary library work.
- To prepare students to take information management positions within companies.
- To ensure that students have an understanding of social science methods that allows them to understand and contribute to research.
- To engage internationally at both the teaching and research levels.
- To build a research and teaching program that creates a distinctive Humboldt perspective and practical set of tools for addressing the changing needs of the world of information.

These points reflect the reality of academic work at the institute and at same time well illustrate IBI's motivation for playing an important role in a project such as EERQI.

Proposed contribution to the EERQI project:

The Technical Coordinator of the EERQI Project will move from the Computer Center of the University of Hamburg to this Institute to take on a professorship in library science as of 1 April 2008. His previous close contact to the Project Coordinator and Project Manager will be continued at his new position and he will be responsible for the cohesion of all technical aspects of the EERQI Project, including the Project research server where the aggregate content base will be maintained and the

testing of new indicators will take place. Furthermore, in view of Prof. Gradmann's active involvement in the EERQI Project prior to this move, the HU-Berlin will take the lead in EERQI work package number 6

**Dr. Stefan Gradmann**, Deputy Director of the University of Hamburg Regional Computing Center and as of 1 April 2008 Professor of Library Science at the Humboldt-University of Berlin is the proposed EERQI Technical Coordinator. He studied Greek, philosophy and German literature in Paris and Freiburg (Brsg.) and received a Ph.D in Freiburg. in 1986 in scientific librarianship (Cologne, 1987-1988). From 1988-1992: he worked as scientific librarian at the State and University Library in Hamburg. From 1992-1997 he was the director of the GBV Library Network. 1997-2000 he was employed by Pica B.V. in Leiden as product manager and senior consultant. He has been the head of RRZ/VCB. He was the Project Director of the GAP (German Academic Publishing) Project of the German Research Association and technical co-ordinator of FIGARO since 2000. Stefan has numerous European and international contacts in the areas of open access publishing and humanities computing. He was an international advisor for the ACLS Commission on Cyberinfrastructure for the Humanities and Social Sciences and as such has contributed to the report "Our Cultural Commonwealth" ([http://www.acls.org/cyber\\_infrastructure/OurCulturalCommonwealth.pdf](http://www.acls.org/cyber_infrastructure/OurCulturalCommonwealth.pdf))

### ***B. 2.2b Other Beneficiaries from the Project Results (non-Partners)***

In addition to the Consortium partners and their respective parent institutions, respectively member organizations, the following institutions, organisations and bodies will benefit from the EERQI project results:

- Universities throughout Europe, especially their administrations, funding bodies, policy-making bodies, etc.
- Researchers and doctoral students in educational research, as well as those in other similar social and economic sciences and the humanities
- National vice-chancellor organizations, university associations, university president associations in the target countries, in other European countries and abroad
- National higher education and research funding bodies in the target countries (Germany, France, Great Britain, the Netherlands, Belgium, Sweden, and Switzerland) as well as in other European countries
- National research councils, research policy-making bodies, research societies
- Assessment and evaluation committees on the individual institutional, regional, national and international levels both in Europe and beyond
- Research institutions, learned societies in educational research and related fields, as well as in other social and economic sciences and the humanities
- Publishers in the content fields of the social sciences, the economic sciences and the humanities
- The European Science Foundation
- ERA and ERA-NET
- Various other European and national projects with related topics or where the results of this project could further research and implementation of their project goals (see earlier section "Potential relationship to other EC Projects", p. 19)
- Beyond Europe, all national and international organizations and institutions involved in research evaluation, relevance assessment of scientific publications and hiring/research funding/evaluation decisions with regard to assessment of scientific and scholarly publications

### ***B.2.3. Consortium as a whole***

The consortium of institutions proposing this project has met six times in the last 4 years (Hamburg, 2002), Edinburgh (2003), Berlin (2004), Oxford (2005), Dublin (2005), Geneva (2006) to discuss this issue and to develop a feasible EU cooperation proposal. These meetings were supported by EERA. As a result of these meetings a clear need was expressed for such a prototype European competitive product to expand the necessary infrastructure of the research network in educational research within the growing European Union and the European Science Network.

The unique quality of this consortium is that it includes not only the complementary mixture of educational research departments and computing centers of institutions of higher education in four different European countries, but also the individual national educational research associations represented individually and EERA. Hence, the project has access to knowledge of funding and hiring policies in a majority of the EC countries for this field, as well as ranking procedures within the scientific community in the individual countries. Furthermore, the project consortium is enhanced by the active participation of a number of interested publishers committed to raising and maintaining the quality of European research in the relevant fields and willing to provide electronic content for the aggregate content base which serves as the test bed for the application of the new indicators and methods. In addition, technical expertise in the area of indexing, testing of indicators within full text environments on a large scale and the development of search protocols is being provided by several non-profit and for-profit enterprises (SMEs) which have been asked to join the consortium. This strengthens not only the technical know-how within the project, but also facilitates the competitive, professional aspect of the end product. This complementarity and balance of consortium partners enhances not only the distribution of work effort within the individual work packages, but also the technical methods to be used to develop and verify the new indicators and methodologies.

The participation of the member associations of the European Educational Research Association (EERA) ensures the maximum exploitation and dissemination (see below) of the project results. Also the involvement of the European publishers (SMEs and larger European enterprises) ensures the exploitation of the project results. Conceivably, during the course of acquisition of additional electronic resources in the content aggregation phase, additional relevant European publishers will also participate with their contribution to the project. This also indicates a high potential for the possibility of developing a sustainable business model with suitable payment schemes for user access to search results when applying the project's search methodologies and indicators on additional and extended content bases for this purpose throughout the social sciences and humanities in the European countries.

### ***Subcontracting***

Because the two national educational research organizations do not normally employ personnel, subcontracting will be used by both BERA (Participant 2) and SSRE (Participant 18).

In the case of BERA, a researcher will be paid via invoice for the research work he is doing for the EERQI Project. This will amount to approximately 58,200 € plus some incidental expenses for travel. This researcher is a consultant linked to the BERA on the basis that he is also belongs to the BERA Board of Trustees. There is still a question if a member of the Board of Trustees can be paid through the BERA, but since the Project is an external activity of the BERA and funding is specifically for this research, and by means of the fact that this researcher is the most capable and reputed candidate to carry out this research, we hope this will be accepted.

In the second case, the SSRE will employ a researcher via invoice in cooperation solely for the EERQI Project. This will amount to 2 man months of research work which will be subcontracted by the SSRE. This will amount to approximately 11,510.00€. Most of the research work originally to be done through the SSRE has now been transferred to the IRDP (6 of the original 9 man months budgeted to SSRE are now allocated to the IRDP). The IRDP will take over leadership of Work Package 10, organization of the verification process and organization of the Second EERQI Workshop, in cooperation with the SSRE. Furthermore, the SSRE will subcontract French translation services during

the Second EERQI Workshop. The costs for this subcontracting are expected to amount to 10,000 € for the duration of the Second EERQI Workshop.

#### ***B.2.4. Resources to be committed***

The contribution of the participating publishers (Participants 10, 11, 12 and 17) will entail making available electronic content to the project in XML format including the additional bibliographical metadata from the publishing server. This will be of minimal cost for two of the publishers (no cost has been noted) and for the other two publishers at no cost to the project. Furthermore the publishers will make their expertise available to the project regarding negotiation for electronic storage and usage of electronic information. This will be of utmost importance in the negotiation phase with other non/participating publishers as well as in the phase of creating a viable sustainability plan for the EERQI results. Furthermore, their contacts with other publishers will mean a commitment in terms of communication beyond that attained solely through electronic means and will also further the advocacy role among publishers which have reservations concerning the EERQI goals and activities.

The learned societies involved have committed important aspects of 1) expertise in the field of research quality evaluation in educational research, 2) contact with their constituency and 3) contact and influence within the higher education and research councils, research funding agencies, etc., in which the respective presidents and executive members of the learned societies are involved. This is an important advocacy aspect, which includes both public relations as well as internal exchange of ideas which can flow into the project without requiring additional (and potentially controversial) effort from a non-partisan body. In addition, the learned societies will be important in helping identify the respective content to be included in the content base so as to ensure complete coverage of educational research journals, books, and institutional websites. The commitment, furthermore, of the participating learned societies is paramount as they will be able to draw upon experts in the field and communicate to them through their own publishing and membership institutions the information on the progress and discussions within the project, which in turn will promote intensive debate and discussion on the determination of the new indicators, the proof of concept methodologies used for testing these new indicators, and finally the verification. Furthermore, the learned societies and research institutions involved will be able to provide access to domain/specific databases and thesauri to enhance the work in WP 8 and WP 9 and advance the implementation and testing phase with the necessary experience with these instruments.

The commitment of resources from the technical partners is also to be mentioned. The ISN has vast experience in the use of the OAI/PMH protocol and the RRZN has considerable experience to draw upon in their development of search engines for all Internet resources. Their commitment goes clearly beyond the man/months listed in the budget as they bring experience in the field of search engine development so that the EERQI project can build upon this and not "start at the beginning". The project will build on previous experience with search engine development at RRZN and technical corpus analysis at ISN for development of adequate parameters as well as domain-specific refinements and adjustments especially in regards to the social sciences. Furthermore, the XEROX SAS partner brings broad experience in parsing and semantic/linguistic content analysis and the project will be able to build on the PARSER already developed at the Xerox Research Center Europe (XRCE) for this project to develop these special aspects needed for the EERQI query engine. Finally, HU-Berlin will contribute valuable expertise in the area of electronic publishing in open access scenarios as well as regarding collaborative techniques, bibliometrics and scientometrics.

The German International Institute for Educational Research (DIPF) will supply access to various relevant bibliographic databases and metadata and the cooperation with this Institute will also be enhanced through the resources used in the German bibliometric project described in the Institute profile above (2.2.7). French-language journals in educational research and bibliographic metadata will be provided through the IRDP (Switzerland). The Lund University Library in conjunction with

the Umea University Education Department will assist in identifying appropriate Swedish-language materials for the content base.

## B.3 Impact

### *B.3.1. Expected impacts listed in the work programme*

The EERQI demonstrates the value of a new and improved data collection and processing technique, as well as semantic/linguistic techniques for assessing research quality in research funding policy, scientific quality assessment, hiring policy, and institutional evaluations. This new and improved data collection, text mining and processing techniques involve the combined harvesting of otherwise fee-based full texts on publisher servers, open access materials in the Internet, other materials available via the Internet, including OAI-compatible repositories. Hence alone the collection of documents goes well beyond the document basis which is used by traditional research quality assessment instruments. Furthermore, the EERQI project focuses on analytic techniques including citation context, semantic/linguistic analysis, correlations between author/institution/language/country of author origin/country of publication, language of publication, etc., which have not yet been treated with regard to research quality and relevance criteria.

The EERQI project contains two prime areas of impact:

First, its goal to investigate the specific ways in which new indicators can be used to measure research quality **involves all stakeholders** in the target domain: publishers, authors, researchers, national research funding agencies, administrative view points, etc. The new indicators – once tested and verified for their effectiveness and reliability – can be used in evaluation procedures for author impact, topical impact within a field, institutional impact, evaluation of funding applications, research areas of emphasis and for evaluation purposes and policy decisions not yet envisioned. Ex post evaluation and ex ante impact assessment can then be more accurately applied to hiring decisions, university development within individual universities and research institutions, university development on a national, strategic level concerning domain strengths and research potential, etc., as well as for research funding application evaluation and decisions guiding the direction of new or continuing research funding programmes.

Public policy regarding research funding policy can be better influenced through the non-partisan cooperative use of the **combined open access and commercial content base** which will inevitably demonstrate the advantages (and disadvantages) of both of these philosophical viewpoints. Public research funding policy will also be influenced by the adoption of such indicators as it will no longer need to depend on a non-European instrument, but will be able to achieve pan-European coverage. Pan-European coverage -- in terms of the EERQI project -- includes coverage of both commercial and open access resources in all languages, taking into account diverse versions, usage statistics and data not previously used in such policy decisions. Furthermore, the EERQI method of research quality indicators introduces new types of differentiated quality measurements which are only possible using text analysis and semantic/linguistic analysis methodologies.

Textual and semantic/linguistic analysis in the European context, however, requires **accommodation of the multilingual environment** within Europe. This can be best achieved through the tools developed within the EERQI project. With the inclusion of primary language groups (French, German) and secondary language groups (English, Swedish), evolving from one or more of the primary language groups, the project can give a prognosis on the ability and effectiveness of expanding the search, extraction, query, and analytic techniques to application in other European languages.

Not only the expanded set of indicators and the expanded content base play a role here, but also the accommodation to the multilingual environment. Semantic/linguistic analysis requires an instrument sensitive to the unique qualities of the semantic/linguistic environment. This means that the search and query engine of the EERQI has the additional requirement of linguistic/semantic sensibility and

**integration of existing subject thesauri, concordances, etc. in the target domain** for purposes of assistance in subject-oriented search and query retrieval.

Secondly, the **visibility** of European research, researchers and their scientific results will automatically be amplified by means of the new differentiated research quality assessment indicators and methodologies as well as by taking into account Europe's linguistic diversity. In the EERQI project, the content base and extraction of metadata is non-disclosed. However, within the discussions to take place in the Work Package 11 „Sustainability plan”, methods and scenarios will be discussed which could enable a continuation and maintenance of the aggregated content base, the search and query engines and the parameterization of the indicators to be viewed. With this expanded coverage, and the legal framework set up as part of the sustainability plan, European authors could view which authors in which journals are citing their work in which languages, where other scientists are working on similar problems and issues, which institutions are producing reports and documents in a certain field, and where can further collaborations be nurtured. European authors and their institutions, as well as funding agencies, hiring procedures, institutional evaluation committees, will not be dependent on values delivered by an instrument which is based only on commercial publications and in disproportionate relation to the full scientific production in certain fields.

The cooperation of the stakeholders in such a scenario remains the key aspect to the success of adoption of such indicators, as well as producing the trusted, reliable and non-partisan environment in which such queries can be made. The fact that not only the European umbrella research organization is involved in this project, but also some of the relevant national organizations, as well as publishers in the field, indicate the recognition of the necessity for change and the willingness to be a driver in this change.

This project requires a European approach – as opposed to a national or institutional approach – to create a balance within the field of research quality assessment. Up to now, the U.S. based instrument SSCI has been very biased to the Anglo-American publication field, and has not included a significant amount of non-English research – especially in the social sciences and humanities. Furthermore, a national approach or institutional approach would be contra-productive to European coverage as references and exchange of information and research results throughout Europe should be promoted, not reduced to only those items referring to a specific country or language area.

The EERQI project focuses on strengthening the European Research Area in that it will bring some of its members closer together through the work of this project, and if extended in a post-project sustainability plan, will continue to function to strengthen the European research community. We believe that the impact of the EERQI project is very much aligned with the newest goals of the European Commission as set forth in the newest Green Book, and with the further development of ERA-Net and ERA-Net Plus. EERQI will also contribute to expanding the profile of the ERA-Net and ERA-Net Plus. This topic is urgently in need of support and substantiable research to determine new research quality indicators. We see this project as using the field of educational research as a microcosm for conception, testing, verification and transferability testing which can be applied to in greater scope within the European Union.

The EERQI project has deliberately chosen to include participants from leading countries in terms of experience and advanced technology in electronic publications and repositories, in technological expertise, in the Open Access movement and in the level of consciousness within the scientific community for the need for such new indicators and analytic techniques. Hence, at this time there are no Accession States involved. However, the inclusion of such states at a later stage is not ruled out and would be welcomed.

### ***B.3.2. Dissemination and/or exploitation of project results, and management of intellectual property***

Dissemination of the project results will take place via the Project Website (WP 14) and use the latest available technology. Particular attention will be paid to dissemination and valorisation activities

throughout the project and synthesize this into actions, making a variety of stakeholders (such as for instance ...) necessary. All reports and events of the project which are appropriate and demonstrate the quality of the project procedures will be open to public access and public comment. Information on the project will be obtained via the web pages, the project FAQ, and individual responses to questions, requests for information, etc. If so desired by the Commission, workshop reports, and the project final report (if not also the annual reports) will be published in print-on-demand and according to a cost-recovery scheme for any interested parties desiring this information in print format. Otherwise all project publications will be electronic.

Exploitation of the project results will be conducted as follows:

- The project members will be requested to share project results with their constituencies (i.e., the learned societies should promote the results of the project to their national and local members, including the individual researchers), parent institutions, national science foundations, and other representative scientific bodies.
- The research funding agencies in the language-target areas of the project (United Kingdom, France, Switzerland, Germany and Sweden), as well as in the peripheral countries where the target languages are also used for scientific publication purposes (Belgium, Denmark, The Netherlands, Norway, the post-Socialist countries, Finland, etc.), will be provided with documentation on the project progress, as well as with all project publications, in printed form if so desired. Funding agencies in the target language areas will be asked to comment, contribute to areas of their expertise, etc., within the project, and in the discussion of the validation procedures of the indicators and methodologies (WP 4, WP 10), as well as for the sustainability plan (WP 11).
- On-line forums for controversial topics will be instituted on the project server with the opportunity to comment, question and challenge the project results. The issues brought up in these public forums will be summarized and compiled for further discussion within the planned workshops.
- A demonstration website on the project server (WP 14) will show 1) how the proposed indicators were tested on the basis of the aggregated content base and 2) how the search and query engine can be given parameters which enable it to “learn” to expand itself to accommodate the application of the indicators and methodologies to other domains, to specific authors, etc.
- University administrators, science research societies, learned societies in other social sciences and humanities areas, and academies of the sciences in the target countries will be provided with all documentation on the project and invited to the 2<sup>nd</sup> (verification) workshop (WP 10), as well as to the planned workshop on sustainability for the project results (WP 11).
- Presentations on the status of the project, as well as presentations on the project results, will be held by the work package coordinators, the project manager, and/or project participants at relevant invited and open conferences, demonstrating the goals and results of the project.
- All events, publications, demonstration and interactive forums will be provided on the project website, including space for debate and comment (see WP 14).

Intellectual property rights will be maintained through contracts within the Consortium concerning the research work done in the project and any publications which result of the project under their authorship. Similarly, all publications of the project itself (including work package reports) will be provided on the project’s open access, OAI compatible server. Individual authors will receive an overview of the project and its implications for their own scientific visibility.

## B.4. Ethical Issues

There are no ethical issues regarding the proposed research in this project, except those dealing with copyright holders, data owners, use, storage and extraction of text from scientific publication, and in dealing with the viewpoints of the various stakeholders (publishers, others)

### ETHICAL ISSUES TABLE

	YES	PAGE
<b>Informed consent</b>		
• Does the proposal involve children?		
• Does the proposal involve patients or persons not able to give consent?	Yes - authors	
• Does the proposal involve adult healthy volunteers?		
• Does the proposal involve human genetic material?		
• Does the proposal involve human biological samples?		
• Does the proposal involve human data collection?		
<b>Research on human embryo/foetus</b>		
• Does the proposal involve human embryos?		
• Does the proposal involve human foetal tissue/cells?		
• Does the proposal involve human embryonic stem cells?		
<b>Privacy</b>		
• Does the proposal involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)		
• Does the proposal involve tracking the location or observation of people?		Location, employing institution
<b>Research on animals</b>		
• Does the proposal involve research on animals?		
• Are those animals transgenic small laboratory animals?		
• Are those animals transgenic farm animals?		
• Are those animals cloning farm animals?		
• Are those animals non-human primates?		
<b>Research involving developing countries</b>		
• Use of local resources (genetic, animal, plant etc)		
• Benefit to local community (capacity building ie access to healthcare, education etc)		
<b>Dual use</b>		
• Research having potential military/terrorist		



application

**I CONFIRM THAT NONE OF THE ABOVE ISSUES** Only those  
**APPLY TO MY PROPOSAL** noted above 

### **B.5. Consideration of gender aspects**

The Consortium already reflects a good balance of male and female participants within the three areas of the project: content, technical, and management. However, as in all academic leadership fields, there is still a predominance of males. We are suggesting tele-working to enable, for instance, persons with family responsibilities to have greater flexibility in fulfilling their job responsibilities.

Annex to Section B, Section B.2.1.4 Implementation (Grant Proposal):

## **List of External Advisors and Possible Further Experts for Inclusion in Project Progress**

### **Additional Expertise in science and research evaluation methods and studies: (As required by the Negotiation Mandate of 12 September 2007)**

The Negotiation Mandate has made us aware that the EERQI Project needs expertise in three areas:

1. experts in evaluation of higher education,
2. experts in evaluation of science research (funding bodies, other evaluators of projects proposals (i.e., peer review), and
3. expertise in bibliometric analysis of science and research publications.

All three of these groups have their own oeuvre of evaluation methodologies, strategies and criteria. All three of these groups has a similar, but not identical set of indicators to base their criteria and final evaluations upon.

Within the original Consortium, we have the following expertise:

1. Experts in higher education evaluation: **David Bridges** (BERA, UK),- member of the 2007/2008 Education Panel responsible for the assessment of research quality of all University Departments of Education in the UK under the UK Research Assessment Exercise (2008), having previously served in the 2001 research assessment. He is a regular reviewer of research quality for the Economic and Social Research Council (the main funding council for educational research in the UK) and has conducted a review of research quality in education for the University of Hong Kong. His publications include: Bridges, D. (2006). *The international and the excellent in educational research*. In: Smeyers, P., and DePaepe, M. (eds.) (2006). *Educational Research: Why what works doesn't work*. Dordrecht, Kluwer.
2. Experts in evaluation of science research: **Ingrid Gogolin** (EERA, DE) – reviewer and advisor for several areas within the German Research Society; **Stefan Gradmann** (UHamb, DE) – reviewer for projects in the EU Infrastructure Project Proposal strain (2007), **Eberhard Hilf** (ISN, DE) – Reviewer for the German Federal Ministry of Education & Research Global Info Projects (2000-2001) and **Diann Pelz-Rusch** (UHamb, DE) – reviewer for U.S. National Science Foundation Digital Libraries Project Grants, Phase II, and for Information Technology and Networks Project Grants (1999-2002), and for for the German Federal Ministry of Education & Research Global Info Projects (2000-2001), as well as External Project Advisor, TARDIS Project (JISC), University of Southampton (2003-2004) (UK).
3. Expertise in bibliometric analysis: **Alexander Botte** (DIPF, DE), **Stefan Gradmann** (UHamb, DE), **Diann Pelz-Rusch** (UHamb, DE), **Håkan Carlsson** (UBLund, SE), **Fredrik Åström** (UBLund, SE) (See publications listed in Institutional Profiles, Sections 2.2.7, 2.2.16 of this paper.) (See also Section 2.2.6 for expertise in semantic/linguistic analysis of full texts)

**Suggestion for augmenting EERQI Expertise:** One –two experts in one of the three above areas from each of the countries represented in the EERQI Consortium, could be invited to participate in the EERQI Project as external advisors within the Steering Committee. The input of these experts should flow directly into the Project at the points where it could be best implemented without delay. Hence, as soon as Project funding is granted, these experts will be sent the initial planning documents and a meeting will be set up with the experts and the Work Package Leaders in the first weeks of the project in order to generate ideas and give some guiding advice for the project as a whole, as well as to discuss procedures, methodological questions, etc., These advisors will also have the opportunity to contribute to the process for determining new indicators

and methodologies and they may want to participate in the first workshop. The experts will be kept abreast of progress of the project through electronic reports and will be involved in the second phase of the project in the verification process on an electronic basis and in evaluating the transferability of the EERQI prototype framework to other social science and humanities fields. Especially important is their direct participation in the second workshop and in the discussions on the EERQI sustainability plan (WP 11).

In fulfilment of the Negotiation Mandate, the following experts have been contacted and have consented to participate in the EERQI Project as External Advisors in the Steering Committee:

**Germany:** *Prof. Dr. Stefan Hornbostel*, Institute for Research Information and Quality Assurance (IFQ) of the German Research Society, located at the Humboldt University of Berlin ([www.forschungsinfo.de](http://www.forschungsinfo.de), [www.hornbost.de](http://www.hornbost.de)). Prof. Hornbostel has experience in evaluation of research proposals and in evaluation of higher education. His present Institute was created 2005 by the German Research Society to have an independent Institute for evaluation of science and research within the Federal Republic of Germany. Prof. Hornbostel has agreed to be an advisor for EERQI. In addition, he has offered the expertise of one of his staff members, Dr. Markus von Ins, who has 10 years of experience in dealing with bibliometric measures of scientific publications in Switzerland.

**Belgium:** *Prof. Dr. Paul Smeyers*, Professor of Education, Center for Fundamental Pedagogical Knowledge, Catholic University of Leuven, ([Paul.Smeyers@ster.kuleuven.be](mailto:Paul.Smeyers@ster.kuleuven.be)). Prof. Smeyers has a history of experience in higher education evaluation and has been involved in the EC as evaluator. His field is educational research. One of his most relevant publications is Smeyers, P., and Depaepe, M. (eds.) (2003): *Beyond Empiricism: On Criteria for Educational Research*. (=Studia Paedagogica 34). Leuven University Press.

**United Kingdom:** *Prof. Dr. Leslie Carr*, Senior Researcher, [Intelligence, Agents, Multimedia](#), University of Southampton, who does research primarily on webometrics, citation metrics and downloading statistics vs. citations, (<http://www.ecs.soton.ac.uk/~lac/>, [lac@ecs.soton.ac.uk](mailto:lac@ecs.soton.ac.uk)). His most recent and for the EERQI Project relevant publications include: Brody, T., Harnad, S. and Carr, L. (2006) [Earlier Web Usage Statistics as Predictors of Later Citation Impact](#). *Journal of the American Association for Information Science and Technology (JASIST)* 57(8) pp. 1060-1072; and Carr, L., Hitchcock, S., Oppenheim, C., McDonald, J. W., Champion, T. and Harnad, S. (2006) [Extending journal-based research impact assessment to book-based disciplines](#). <http://eprints.ecs.soton.ac.uk/12725/01/bookcite.htm>

Further experts from Switzerland, France, the Netherlands, and Sweden will be approached and requested to participate in the EERQI Project as external advisors. This will include experts from all three areas of expertise affecting the EERQI Project as listed above. We will be happy to provide the EC with the list of persons currently being considered for approaching for this expertise if necessary.

### **Switzerland:**

*Prof. Dr. Hans Weder*, Vice-Chancellor of the University of Zurich, President of the Conference of Vice-Chancellors of Swiss Universities (Conférence des Recteurs des Universités Suisses) (CRUS) <http://www.crus.ch>

or

*Prof. Dr. Jacques Lanarès*, Vice-Rector of the University of Lausanne, who is responsible in the CRUS for Quality Assurance for the universities of western Switzerland

or

*Elisabeth Castaing-Bautier*, member of the educational sciences section of the Conseil national des universités (CNU) of Switzerland.

## France:

**Francis-André Wollman**, Director of Research, CNRS, or **Jacques Ducloy**, both from the Centre Nationale de Recherche Scientifique (CNRS). They are well-experienced with the area of scientific publications and scientific research.

or

**Francis Marcoin**, "directeur adjoint" of the Institut National de Recherche Pédagogique (INRP), and responsible for research and, more particularly, publication. He knows the domain of publication in France very well ([francis.marcoin@wanadoo.fr](mailto:francis.marcoin@wanadoo.fr))

## The Netherlands:

**Prof. Dr. Henk F. Moed** (<http://www.cwts.nl/hm/>, [moed@cwts.leidenuniv.nl](mailto:moed@cwts.leidenuniv.nl)) is Senior Staff member at the Centre for Science and Technology Studies, in the Department (Faculty) of Social Sciences at Leiden University and author of the most recent (and authoritative) monographic work on evaluation of science and research publications: Moed, H.F. (2005). *Citation Analysis in Research Evaluation*. Dordrecht: Springer; Moed, H.F., Luwel, M., and Nederhof, A.J. (2002). Towards research performance in the humanities. *Library Trends* 50:498-520; Moed, H.F. (2005). Statistical relationships between downloads and citations at the level of individual documents within a single journal. *Journal of the American Society for Information Science and Technology*. 56: 1088-1097; Moed, H.F. (2005). Citation Analysis of Scientific Journals and Journal Impact Measures. *Current Science* 89: 1990-1996.

or

**Anthony .F.J. Van Raan**, Department (Faculty) of Social Sciences at Leiden University and prolific author in this area, also the comparison of indicators in citation analysis (bibliometrics and word comparison, interdisciplinary comparison and differences among various subject areas;

or

**Th. N. Van Leeuwen**: Van Leeuwen, Th.N., Moed, H.F., Tijssen, R.J.W., Visser M.S., and van Raan, A.F.J. (2000). First evidence of serious language-bias in the use of citation analysis for the evaluation of national science systems. *Research Evaluation* 9: 155-156; Van Leeuwen, Th.N., Moed, H.F., Tijssen, R.J.W., Visser M.S., and van Raan, A.F.J. (2001). Language biases in the coverage of the Science Citation Index and its consequences for international comparisons of national research performance. *Scientometrics* 51: 335-346; Van Leeuwen, Th.N. (2004). The second generation of bibliometric indicators. Thesis, Leiden University;

or

**M. S. Visser**: Visser, M.S., and Moed, H.F. (2004). Measuring the impact of non-ISI source items. Paper presented at the S&T Indicators Conference, Leiden (The Netherlands), 25-28 September 2004; Visser, M.S., and Moed, H.F. (2005). Developing bibliometric indicators or research performance in computer science. Paper submitted to the ISSI 2005 Conference, Stockholm (Sweden), 24-28 August, 2005.

For the area of **higher education evaluation and research funding evaluation in the Netherlands**, we suggest approaching the **Stichting SURF**, the research funding body in the Netherlands, and specifically **Dr. Leo Waijers**, who has broad knowledge of the need for an alternative to citation analysis as evaluation criteria for relevance assessment of scientific publications.

## Sweden:

**Prof. Dr. Olle Persson**, Head of the Sociology Department and Professor of Library and Information Science. Umeå University, Sweden ([http://www.umu.se/soc/personal/persson\\_olle.htm](http://www.umu.se/soc/personal/persson_olle.htm)). He is the portal figure and one of the main names in terms of Swedish bibliometrics and research evaluation. His publications include: Perrson, O., Glänzel, W., and Danell, R. (2004) Inflationary bibliometric values, the role of scientific collaboration and the need for relevant indicators in evaluative studies. *Scientometrics* 60: 421-432; Perrson, O., and Danell, R. (2004). Decomposing national trends in activity and impact. In: Moed, H.F., Glänzel, W., and Schmoch, U. (2004) (eds). *Handbook of quantitative science and technology*

research. *The use of publication and patent statistics in studies of S&T systems*. Dordrecht: Kluwer Academic Publishers, 515-528.

or

**Dr. Jesper W. Schneider**, Royal School of Library and Information Science in Aalborg, Denmark, a former Ph.D. student of Prof. Peter Ingwersen. Dr. Schneider has broad competence in terms of bibliometrics and research evaluation: ([http://www.db.dk/ombiblioteksskolen/medarbejdere/\\_default.asp?cid=701](http://www.db.dk/ombiblioteksskolen/medarbejdere/_default.asp?cid=701)). His publications include: **Schneider, J.**, Larsen, B., and Ingwersen, P. (2007): Comparative Study between First and All-Author Co-Citation Analysis Based on Citation Indexes Generated from XML Data. In: Torres-Salinas, D., and Moed, H.F. (eds.) (2007): *Proceedings of ISSI 2007, 11th International Conference of the International Society for Scientometrics and Informetrics*, , CINDOC: Madrid, pp. 696-707; **Schneider, J.**, and Borlund, P. (2007): Matrix comparison, Part 1: Motivation and important issues for measuring the resemblance between proximity measures or ordination results. *Journal of the American Society for Information Science and Technology*, 58(11): 1586-1595; **Schneider, J.**, and Borlund, P. (2007): Matrix comparison, Part 2: Measuring the resemblance between proximity measures or ordination results by use of the Mantel and Procrustes statistics. *Journal of the American Society for Information Science and Technology*, 58(11): 1596-1609; **Schneider, J.**, Sandal, S., and Schjødt Jensen, D. (2006): Bibliometri: En biblioteks- og informationsvidenskabelig kompetence. *DF-Revy*, 29 (6): 4-8; **Schneider, J.** (2006): Concept symbols revisited: Naming clusters by parsing and filtering of noun phrases from citation contexts of concept symbols. *Scientometrics* 68(3): 573-593,

and/or

The Swedish Research Foundation: **Staffan Karlsson, Daniel Wadskog**, Department for Research Policy Analysis (authors of *A bibliometric survey of Swedish scientific publications between 1982 and 2004*. Stockholm: The Swedish Research Council, May 2007 (in Swedish with English summary) <http://www.vr.se/download/18.75852c9a11447f3519b80002714/Bibliometric+Survey+82-04.pdf>

## Greece

**Magda Trantallidi** ([magda.trantallidi@gmail.com](mailto:magda.trantallidi@gmail.com)), Head of Department for International Cooperation in Adult Education, Greek Ministry of Education. Her field of expertise is lifelong learning policy and practice. She has been in her present position since 1988. With an educational background in law (University of Athens) and political science (ParisVIII), she turned educationalist with studies in adult education and lifelong learning theory and practice at postgraduate level (Florence) and doctoral level (Nottingham- U.K). Since 1994 she has been investigating in policy related issues and she has worked extensively, as a manager and evaluator, on a range of transnational partnerships in education, training, social inclusion and gender mainstreaming projects under the programmes of the European Commission. She has contributed to initiatives involving the development of educational policy for adults, as an active member of networks and associations that promote lifelong learning and active citizenship in Europe.

## Italy

**Giovanni Biondi** – (<http://www.mediamente.rai.it/mmold/english/bibliote/biografi/b/biondi.htm>) Director of the Library of Pedagogic Documentation (Italy) since 1992. Prof. Biondi is editor of the review "Educazione Comparata" and in 1997 he was involved in designing Work Package 10 of the EU Project "Virtual European School Net." He has taught courses in information policy and computer networks for the Italian Federal Ministry, and several international organisations.