

Summaries

Articles

Hanne Foss Hansen: Forskningsevaluering: Den Danske situation i internationalt lys (Evaluation of research: The Danish experience in international perspective).

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Evaluation of research fields, research departments and institutions may be initiated due to different reasons. Also different levels in the research system may be responsible for organizing the evaluation process. For example evaluation of research may aim either at controlling or at supporting development of research productivity and quality. Responsibility for organizing the evaluation process may either be decentralized and placed at the research institutions or centralized and placed at a superior political-administrative level, e.g. in some kind of ministerial or buffer body or with a science policy council. Different combinations of aims and placing of responsibility have been chosen in different countries. In the UK we find a centralized system aiming at controlling. In The Netherlands and Denmark we find centralized systems aiming at supporting development. In the article these systems are described and compared. On the basis of this analysis other important dimensions which ought to be taken into consideration when designing an evaluation system are discussed. These dimensions concern factors such as timehorizon, numbers of criteria, audience, definition of effectiveness, delimitation of the object of evaluation and ethics.

Heine Andersen: Tidsskriftspublicering og forskningsevaluering (Publication in journals and evaluation of research).

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The scientific journal article is the dominating means of publication in the sciences, but HA shows with data from a new study (interviews with 800 Danish scientists he has conducted 1995/96) that not only social scientists, but also computer scientists publish as much in books as in journals. There are big differences in publication behaviour across the disciplines due to the differences in research processes. E.g. in physics and medicine the Danish researchers used 14% of their working hours for writing, in politology it was 25%. The journal article simply is not the optimal publication means for every kind of research results. HA concludes that science studies should take a greater interest in studying norms and criteria for good publication behaviour, and for improving the existing media structure.

Per O. Seglen : Bruk av siteringer og tidsskrifts-inpaktfaktor til forskningsevaluering. (Use of citation frequency and journal impact factor (JIF) in research evaluation.)

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The use of citation frequency as found by searching the citation indexes published by Institute for Scientific Information is encumbered with

numerous methodological problems (skewed coverage of citing journals, clerical errors, assigning correct author names to cited works, etc). Also the referencing behaviour of authors are governed by a variety of motives and conditions; the motives for citing or not citing may not always bear close examination. The most important objection to the use of citation data is that citation frequency is highly influenced by the dynamics of the research discipline, e.g. a biochemist will statistically get cited 4 times as often as a mathematician if we use a short-term index. The JIF calculated by ISI is a short-term index which favours papers of current, but not necessarily lasting interest. What is most serious if used for research evaluation is that it is an indirect measure which may be of no consequence to the individual journal article. Seglen concludes that indicators based on citation frequency - esp. the JIF - are badly suited to measure quality of research. Evaluation must be based on published results, that must be *read* by experts, i.e. peer review.

Birger Hjørland: Forskningsevaluering i videnskabssteoretisk belysning. (Evaluation of research in the light of theory of science.)

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BH contrasts two main views on research evaluation: one bureaucratic and positivistic: research can and must be measured like any other line of production in society, preferably by quantitative methods. The other: Significant research should not be governed and cannot be measured, and certainly not by counting publications or citations, but must be evaluated by peers. BH presents a third view by putting forward 7 theses: 1. Evaluation of research implies views of concepts of science and knowledge and of the goals of research (and vice versa). 2. Science has a paradox problem: a big demand for new knowledge, and an overload of publications. 3. Methods for evaluation of research are based on basic assumptions of theory of science, overtly or covertly; often positivistic of nature. Thus the debate positivism versus historicism/hermeneutics/pragmatism is still essential. 4. Bibliometric indicators can throw light on trends, but cannot tell

if these trends represent fruitful developments or populist currents; example: the prominent psychologist J Bruner who in the 1990s regrets the unfruitful development of the cognitive paradigm in psychology, which he himself was instrumental in starting in the 1950s. 5. Criteria for evaluation of research are domain specific. 6. In order to interpret statistical indicators of research it is essential to involve theory, history, and sociology of science; Example: the Cyril Burt scandal. 7. Library and information science is a potentially important participant in research evaluation because in much of our theoretical and practical work (i.e. classification, document selection) we are concerned with evaluation studies, and information scientists have for a long time been engaged in bibliometric analysis.

REVIEWS:

Svend Bruhns reviews: Hanne Foss Hansen & Birte Holst Jørgensen: *Styring af forskning : kan forskningsindikatorer anvendes?* Kbh.: Samfundslitteratur, 1995. 204 s. (English summary pp.179-87). (Science policy and research management : can research indicators be used).

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The project was initiated by the University of Copenhagen when the Ministry of Education published its intentions to introduce a resource allocation system for university research based on quality criteria. In Denmark research in the area of science studies is very weak, and it is the first Danish book to try to systematically cover the ground of research indicators. In its first part the book critically compares policies of research evaluation of the UK, the Netherlands and Sweden. The authors reject the British ratingsystem esp. because resource allocation is dependent on the ratings, and the indicators used are ex post. The Dutch and Swedish are better because they have a dialogue between the evaluated units and the evaluators, and because they also use ex ante indicators. In part 2 and 3 the indicators - divided in three groups are discussed. Group one: direct, quantitative indicators may give an

impression of the activity of research (publications) its visibility in the research community (citations) etc. But being only numbers they are ex post and not able to say anything about the potentialities of the research. Also they may be ambiguous, which to say the least is also the case of group two: the Journal impact factor, which is an indirect measure. The last group, peer reviews, should only be used in quality development. New ex ante indicators for research foresight are briefly treated.

The reviewer praises the book for its allround and critical treatment of the subject and its timely appearance but has some remarks to its discussion of citation analysis.

Svend Bruhns reviews: Johan Fjord Jensen: *Babel og tomrum : de systemiske videnskaber og humaniora : et essay*. Gyldendal, 1996. 163 p. (Babel and Void : the systemic sciences and humanities : an essay)

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The book by Fjord Jensen, professor emeritus of literary theory at Aarhus University, skewers what he calls the systemic sciences, i.e. sciences that let themselves be governed by bibliometrics in their information seeking, trying to follow the main stream as highlighted in highly cited authors, and letting themselves be enticed by the resources held forth by programme research, instead of contemplating the real needs. Fjord Jensen laments the trends of severing university education from research and of removing power over research funds from the researchers and placing it in the hands of policy makers (whether they are researchers or not).

It is a stimulating pamphlet but somewhat trying to read if you have first hand knowledge of information retrieval and citation indexing which presumably the author has not.