Classification of scientific publication channels
Final report of the Publication Forum project
(2010–2012)
## CONTENTS

1. PROJECT BACKGROUND AND IMPLEMENTATION 3
   * Institution of the Publication Forum project 3
   * Constitution and instructions of Evaluation Panels 4
   * Compilation of journal, series and publisher lists 8
   * Implementation of classification 9
   * Publication Forum maintenance and updating 11

2. PUBLICATION FORUM CLASSIFICATION 12
   * Publication Forum classification completed in 2011 12
   * Foreign models for classification of scientific publication channels 18

3. OTHER PROJECT-RELATED OPERATIONS 22

APPENDIX 1. USER INSTRUCTIONS OF THE PUBLICATION FORUM CLASSIFICATION 24

FURTHER INFORMATION 27
PROJECT BACKGROUND AND IMPLEMENTATION

Institution of the Publication Forum project

In the university funding model used by the Ministry of Education and Culture (MinEdu) in 2010–2012, scientific publications constitute one criterion accounting for about 2% of the appropriated funding. The academia has criticised both the current and the precedent model for the fact that the decisive factor is the number of publications, not their quality. The question of including the quality of the publications among the funding criteria was taken up by the Finnish Council of University Rectors, UNIFI which instituted its own working group for the purpose. In 2009, the group drafted a plan to develop the quality assessment of scientific publications.1 According to the report by the working group, citation analyses and indicators are widely used in natural sciences and medical research to assess the value of research. The publications in these disciplines are well covered by citation databases and therefore the citation analyses provide a comprehensive picture of the research done in these fields. In contrast, a significant part of the publications in the fields of technology and, in particular, social sciences and humanities fall outside the scope of the citation databases, and therefore the working group found that the citation analyses are an imperfect tool for evaluating research in these disciplines.

The working group proposed that Finland should follow the Norwegian and Danish examples and create “a system to improve the quality assessment of scientific publications, based on a publication forum”, in other words a classification system for scientific journals, publication series and book publishers. The objective was to create a research assessment tool which would be used, for example, to complement the university funding model with a publication quality indicator or to evaluate the publication activity of research organisations or disciplines at the level of large publication quantities. Another essential goal was to increase the awareness of the researchers about the high-level scientific publication channels, thereby raising their level of ambition in publishing their work. The classification was not considered suitable for the evaluation of individuals or research groups.

On 17 March 2010, UNIFI organised a meeting attended by Chancellor Ilkka Niiniluoto of University of Helsinki and Professor Aura Korppi-Tommola, Chair and Executive Director of the Federation of Finnish Learned Societies (TSV); Rector Lauri Lajunen and Doctor Liisa Savunen (Chair and Secretary General of UNIFI); Director Anita Lehikoinen and Ministerial Adviser Olli Poropudas (MinEdu); Secretary General Timo Luopajärvi (Rectors’ Conference of Finnish Universities of Applied Sciences Arene); Director Klaus Lindberg and Development Manager Tuija Raaska (IT Centre for Science CSC/Raketti Project); and Chairperson Arja-Riitta Haarala, (Council for Finnish University Libraries). The meeting decided to assign the Publication Forum project to the Federation of Finnish Learned Societies (TSV).

Being an independent organisation that widely represents the scientific community through its member societies, TSV was found to be the suitable forum for the project. The activities of the member societies involve representatives from all areas of the scientific community; the universities, State research institutes and other research and science organisations. The societies under the TSV umbrella publish scientific journals and series of monographs and they receive funding from TSV. In addition,

TSV’s statutory responsibilities include the development of exchange of scientific information and publication. TSV also has earlier experience in organising and hosting projects that involve the wide scientific community; in 2008, it was responsible for the canvassing and road-mapping project focusing on national-level research infrastructures.

The Publication Forum project was officially launched on 3 May 2010 by TSV who also appointed the project Steering Group and Secretariat. Chancellor Ilkka Niiniluoto became the Chair of the Steering Group (TSV) while Vice Rector Heikki Mannila (UNIFI) was appointed Vice Chair. The other members were Juha Haataja (Service Director, CSC); Pirjo Hiidenmaa (Director, Academy of Finland); Arja-Riitta Haarala (Chair, Council for Finnish University Libraries); Jyrki Ilva (Application Designer, National Library of Finland); Olli Martio (Professor, Secretary General, Finnish Academy of Science and Letters); Olli Poropudas (Ministerial Adviser, MinEdu) and Hannu Sariola (Professor, TSV). Arja-Riitta Haarala was replaced by Mirja livonen in May 2011 while Laura Raaska took over Pirjo Hiidenmaa’s mandate in January 2012. The Secretariat was constituted by Aura Korppi-Tommola (Executive Director, TSV), Tuija Raaska (Development Manager, CSC/Raketti project) and Liisa Savunen (Secretary General, UNIFI). Hanna-Mari Puuska of CSC, coordinator of the JURE project which focused on the implementation of a national publication register, participated in the Steering Group meetings in the role of an expert.

In May and June of 2010, the Steering Group laid down the general outline for the project and decided to recruit a coordinator and project secretary. Starting on 1 August 2010, the project closure was set at 29 February 2012. The Evaluation Panels were to start working towards the end of 2010 and were to finalise their work by the end of the year 2011. The timetable for the early part of 2012 envisaged information on the outcome and editing work of the eventual publication. Before the end of the project, the Steering Group was to decide on how and where to maintain and update the Publication Forum classification. In the summer of 2010, Otto Auranen was recruited as Coordinator and Janne Pölönen as Project Secretary, both starting their work as of the beginning of August 2010.

With the special funding appropriated by MinEdu, TSV paid for the staff expenses, the Steering Group and Panel meeting costs and other overheads, such as financial administration. Most of the project meetings took place in Helsinki at the House of Sciences and Letters (Tieteiden talo). The travelling of the Steering Group and Evaluation Panel members took place at the expense of their employers, with the exception of the Panel members who were appointed full members at the Panels’ initiative and whose travelling expenses were covered from the project budget. The special appropriation by MinEdu totalled 299,000 euro. Towards the end of 2011, MinEdu decided to extend the period of utilisation of the funding until the end of 2012. Between the beginning of August 2010 and end of February 2012, the project spent 220,000 euro of the appropriation granted for the purpose. The largest expense items were those associated with the Coordinator and Project Secretary salaries as well as the Panel meeting expenses. The Secretariat’s travelling expenses and the purchase of database licences were other major expense items.

Constitution and instructions of Evaluation Panels

The operations proper of the project started in August 2010 through the division of disciplines into expert Panels charged with the task of evaluating the quality of the publication channels. The
working group for discipline classification under the JURE project had proposed 55 Panels, dividing the disciplines into Panels accordingly. Starting from there, the scope of each Panel was extended so that in the end, 23 Panels were formed in August 2010. The Steering Group's rationale for constituting extensive Panels was to inspire a discussion of publication quality criteria across the borders of cognate disciplines. The Panels were the following:

1 Mathematics and Statistics
2 Computer and Information Sciences
3 Physical Sciences, Space Sciences and Astronomy
4 Chemistry
5 Geosciences and Environmental Sciences
6 Biosciences I
7 Biosciences II
8 Civil and Construction Engineering, Mechanical and Manufacturing Engineering
9 Electrical and Electronic Engineering, Automation, Information and Communications Technology
10 Chemical Engineering, Materials Engineering and Environmental Engineering
11 Medical Engineering, Biotechnology and Basic Medicine
12 Clinical Medicine I
13 Clinical Medicine II and Dentistry
14 Health Sciences and other Medical Sciences
15 Agriculture and Forestry, Veterinary Sciences
16 Economics and Business
17 Social Sciences, Media and Communications and Interdisciplinary Social Sciences
18 Psychology and Educational Sciences
19 Political Science, Public Administration and Law
20 Philosophy and Theology
21 Language and Linguistics
22 Literature, Arts and Architecture
23 History, Archaeology and Cultural Studies

Contemporaneously with the constitution of the Panels, the universities, State research institutes, scientific societies and academies were contacted with a request to propose Panel members. By the end of September, 528 names had been proposed and in October 2010 the Steering Group elected 204 Panel members from the candidates. The criteria for the appointment were the coverage of the whole range of disciplines under each Panel as well as the candidates' experience in practical research work and research evaluation. Gender equality was another selection criterion while geographic coverage and inclusion of different research organisations were also considered. One third of all Panel members and half of the Panel chairs were women. The representation of various universities was evenly distributed in proportion to their FTE person-years in research and publication output (Figure 1).
Based on the proposals of the Panels, the Steering Group decided in February 2011 on the change of the borders of disciplines assigned to each Panel, on the switch of members between the Panels and on the invitation of some members to complement the coverage of the disciplines in question. The final distribution of the disciplines among the Panels² as well as the constitution of each Panel³ was published on the project website.

In October 2010, the Steering Group adopted the evaluation instructions issued to the Panels.⁴ The quality criteria of scientific publication and publication activity defined in the instructions corresponded largely to those followed in Norway and Denmark. The definition of a scientific publication channel was the following:

The term ‘scientific publication channel’ refers to printed and digital journals, regular conference proceeding series as well as to the publishers’ anthology and monograph series specialised in the publication of scientific research results, meaning that they have an editorial board constituted by experts in the discipline in question and that the publication calls for a qualify evaluation following the best practices in the discipline in question, above all referee evaluation by peers. A scientific publication channel can also be a full publisher with scientific publications in collections/anthologies or monographs that are not included in a series of volumes.

Levels 1 and 2 of the publication channels were defined in the instructions as follows:

Level 1 comprises the most important domestic and foreign publication channels in the various disciplines, meeting the definition of a scientific publication channel: the publication channel has an

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2 http://www.tsv.fi/julkaisufoorumi/loppuraportti/paneelien_tieteenalajako_lopullinen.xlsx
4 http://www.tsv.fi/julkaisufoorumi/loppuraportti/julkaisufoorumi-paneeliohjeet_220611.pdf
editorial board constituted by experts, and the publication calls for quality evaluation recognised by the scientific community, above all referee/peer evaluation. Even if a domestic publication channel satisfied the criteria of a scientific channel, it should not, as a rule, be classified as level 1 or 2 if the majority (2/3) of the editorial board and authors are representatives of the same research organisation.

Based on the decision taken by the Steering Group's virtual meeting of June 2011, the series of the universities and research institutes publishing doctoral theses should not be separately classified in the Publication Forum but the entire doctoral thesis production of Finnish universities is seen as a single level 1 publication channel. In practice, this means that a monograph thesis corresponds to a separate level 1 volume while a thesis consisting of several articles corresponds to one level 1 original article even if they appeared in publication channels with no Publication Forum classification.

Level 2 covers the leading scientific publication channels of the various disciplines, with the researchers from various countries publishing their best research outcomes. As a rule, level 2 can include international scientific publications channels only, with the editors, authors and readers representing various nationalities. However, Finnish or Swedish-language publication channels can qualify as level 2 if they reach the international expert audiences in their respective disciplines.

Each Panel was assigned the task of rating a maximum of 20% of the scientific journals and series in their respective fields as level 2. This percentage share was calculated on the number of journals evaluated by the Panel and found to meet the criteria of 'scientific', i.e., those classified as level 1. Since all Panels encompassed several disciplines, they were also responsible for ensuring that all of the respective disciplines were represented on level 2. As for book publishers, the objective was to rank about 10% of the publishers meeting the scientific criteria as level 2.

At the initiative of certain Panels, the Steering Group amended the evaluation instructions in February 2011 so that the Panels would choose level 3 journals and series among those on level 2. Level 3 was defined to include 1% of level 1 journals and series covered by each Panel. During the spring, the Panels provided feedback on the selection of level 3 journals and series. As a rule, they found that the 1 per cent share of the titles of level 1 was too small. The meeting of the Panel chairs in early May agreed with this view. Based on the feedback, the Steering Group decided in June 2011 to increase the level 3 percentage share, changing the maximum share of level 3 to 5% of the level 1 journals and series under each Panel. At the same time, the detailed criteria for the selection of level 3 journals and series were adopted.

Level 3 comprises the journals and series which, according to the Panel, represent the state-of-the-art quality in the respective area. The following criteria can be used to distinguish level 3 journals and series from those of level 2:

- practically all published research is of the highest level in its particular discipline or research area, with a great impact on the sector (measured, e.g., by citation indicators);
- the discipline or research area is covered comprehensively without focusing on the
discussion of narrower special themes;
• international authors and readers;
• editorial board includes the leading researchers in the discipline or research area; publication in these journals and series is highly regarded among the international research community of the field.

Since many publication channels were evaluated by several Panels, it resulted in many cases in differing ratings of the publication channels. Originally, it was envisaged that these situations would be solved in negotiations between the Panel chairs, but in October 2011 the contradictory classifications concerned over 900 journals and series as well as certain publishing houses. The Steering Group decided that if there are contradictory ratings, the level of the publication channel will always be the higher one suggested. The decision did not result in a significant increase in the total number of level 2 or 3 publications channels but saved time for the Panels and especially for their chairs.

On 1 February 2012, 60 scientific societies – mainly from the social sciences and humanities – issued an opinion entitled “For versatile and multifaceted scientific publication activity” addressed to the Publication Forum project and other interested parties. Immediately on 3 February 2012, the Steering Group examined the questions raised in the statement concerning the status within the Publication Forum classification of Finnish-language scientific journals and series as well as those publishing in languages other than English. The same questions had been debated earlier in the context of the Publication Forum project. The Steering Group found that the concerns voiced in the statement and related to the language of scientific publication were important, especially as regarded the research in social sciences and humanities. Consequently, the Steering Group decided to amend the evaluation instructions as follows:

• At their own discretion, Panels 14 and 16–23 can classify leading Finnish and Swedish-language scientific journals and series as level 2 if the publications cover the research in the respective discipline and focus on the special features of the Finnish society, culture and history as widely as possible; and
• The Panels covering the disciplines included in the European Reference Index for the Humanities (ERIH) of the European Science Foundation can, at their own discretion, rate journals and series classified in ERIH as level A and publishing in languages other than merely English, as level 2 in the Publication Forum.

The Secretariat of the project was assigned the task of implementing the Steering Group decision in collaboration with Panels 14 and 16–23 during the spring of 2012.

Compilation of journal, series and publisher lists

The lists of the scientific journals and series submitted to the evaluation of the Panels were compiled using several sources of information. For the foreign journals and series, the sources included the Scopus and Web of Science (WoS) databases as well as the lists of journals and series used in the Norwegian, Danish,
Australian and ERIH classifications. The search for Finnish journals and series was done with the help of the Arto database as well as the list of journals and series receiving publication support from TSV. The list of conferences compiled for the Australian classification was used as a source in the evaluation work of certain Panels focusing on Technology. The lists were also complemented on the basis of suggestions made and received by the Panel members.

The lists of journals and series obtained from foreign sources were merged by Yrjö Leino, Senior Application Designer of CSC. Once the combined lists were finalised, the Secretariat of the Publication Forum project prepared a separate list of journals and series for each Panel. The lists had overlapping titles since many journals and series publish research from several disciplines and were relevant to many Panels. The journals and series were assigned to the Panels on the basis of the discipline categories followed by the information sources in use. The Secretariat adjusted the subcategories of other sources of information with the discipline categories prepared by the discipline category group of the JURE project, based on the WoS. All Panels received the same list of publishing houses. It was based on the list of publishers compiled for the Norwegian evaluation and was complemented by the Publication Forum Panel members during the spring of 2011.

In February 2011, the Steering Group decided that all of the 38,000 journals and series identified through the various information sources would not be included in the evaluation but their number would be cut down to about 20,000 titles corresponding to the number evaluated in the Norwegian and Danish classifications. The rationale of the cut was the need to reduce the evaluation workload of the Panels, and it was also found that the level of the journals and series would be too variegated if all the possible titles were to be included. The basic set of the evaluated journals and series was built upon the lists used in Norway and Denmark. The journals and series included in the lists of both Norway and Denmark were included. This list was complemented by the journals and series included in the WoS and ERIH classification as well as in the Australian A* and A categories. Moreover, the Panels added journals and series to the lists or deleted them according to their own view of the publication activity in their respective fields. All in all, the 2011 evaluation involved about 20,000 journals and series and 2,000 publishers.

Implementation of classification

The first round of meetings of the Evaluation Panels started in December 2010 and continued until January 2011. In their meetings, the Panels elected vice-chairs, debated the demarcation of the disciplines and made suggestions for new members or transfers of members between the Panels. Moreover, the Panels decided on their internal division of labour and modes of operation. The Secretariat presented the general background and objectives of the project. The meetings were presented with the first drafts of the lists of journals and series the respective Panels should evaluate. The lists were preliminary versions with the basic bibliographic data about the journals and series but no other background information.

In their meetings of March and April 2011, the Panels pruned the lists of journals and series on the basis of the proposal made by the Secretariat. The proposal was based on the outlines adopted by the
Steering Group earlier in the year, cutting the number of evaluated journals and series down to about
20,000 titles. Journals and series were eliminated because they were found to be either irrelevant or
non-scientific; the Arto database, in particular, contained journals and series that did not meet the
criteria set by the Publication Forum. For the second round of meetings, the Panel members also
complemented the Secretariat’s basic list of journals, series and publishing houses. In order to identify
relevant publication channels missing from the basic lists, many Panel members sent out inquiries
to their colleagues, as encouraged in the evaluation. Moreover, the Panels continued to discuss
the practical implementation of the evaluation, such as the founding principles underpinning the
classification proposal made by the Secretariat.

The first evaluation meetings proper of the Panels were arranged in May and June of 2011. The meetings
focused mainly on the selection of level 1 and 2 journals and series, following the preliminary proposal
made by the Secretariat. It was based on the citation indicator values of the journals and series as well
as on the outcomes of earlier corresponding evaluations. In the Panels for natural, medical and technical
sciences (Panels 1–15) as well as in those of economics and education (16 and 18), the preliminary
proposal was construed on the basis of three bibliometric indicator values (Journal Impact Factor (JIF),
Source Normalized Impact per Paper and Scimago Journal Rank) as well as on the outcome of earlier
evaluations (Norway, Denmark and Australia). In the Panels for social and humanistic sciences (17 and
19–13), the proposal was based on the Source Normalized Impact per Paper values as well as the earlier
results (Norway, Denmark, Australia and ERIH). The Panels were provided with the complemented list of
publishing houses before the third round of meetings.

In their meetings in August and September 2011, the Panels decided on the selection of the level 3
journals and series as well as on the classification levels of book publishers. In the end, all the Panels
decided to select level 3 journals and series although many Panels initially found that two levels were
sufficient in principle. The Secretariat’s proposal on the level 3 journals and series was based on the
same calculation criteria used for levels 1 and 2. The Panels of natural and medical sciences pointed
out that the review-type journals accumulate very many citations due to their very character, thereby
ranking too high in the Secretariat’s proposals. Indeed, these Panels aimed at classifying only the very
highest-level review journals as level 3 while other Panels did not include any of them among the level
3 channels. In the case of book publishers, the Secretariat’s classification proposal was based on the
Norwegian model. Each Panel discussed the publisher list from their own discipline perspective. The
Panels for social sciences and humanities were much more active in ranking the publishers than the
others because the publication of monographs and collections of articles/anthologies is an integral
element of the publication culture in social and humanistic sciences.

The classifications adopted by the meetings held in late spring and early autumn were published, in
a preliminary form, on the Publication Forum website in November 2011. The Panels continued to
discuss the classifications in email meetings until the end of the year, partly also as a consequence of
feedback from the members’ colleagues. The Panels continued to add the items to the journal, series
and publishing house lists until the end of the year. The ratings were finalised by the end of 2011. The
final Publication Forum classifications for 2011 were published on the project website in January 2012.
In February, the project introduced a search engine on the website, with the search criteria including
the title of the publication channel, the ISSN code, the Publication Forum classification level and the type of publication channel. Later, the searches by discipline will be added. In December 2011, the Secretariat started to check and complement the bibliographic data of the classified journals, series and publishing houses, using the Ulrichs database, among others, for the purpose.

Towards the end of 2011, the Panels engaged in a wider discussion on the ways to use the Publication Forum, the evaluation of research and the status of the societal impact of research in science policy. To constitute an introduction to further discussions, the Secretariat wrote a memo on these topics in October 2011. The views of the Panels were taken into consideration, for example, in the memorandum written by the Steering Group and addressed to the working group for the reform of the university funding model, in the TSV statement of opinion on the proposal of the above-mentioned working group as well as in the user instructions of the Publication Forum, completed in February 2012 (Appendix 1). The instructions include an overview of the principles followed in the compilation of the classification as well as examples of positive and negative ways to use it.

**Publication Forum maintenance and updating**

During the period from August to December 2011, the Steering Group drew the essential outlines regarding the maintenance and updating of the Publication Forum classifications. The plan envisages classification reviews every three years. The next full updating will take place in 2014 while the Panels will adopt new, unclassified journals, series and book publishers to level 1 during the intermediate years. Introduced in February 2012, the proposal page at the Publication Forum site can be used to suggest new journals, series and publishing houses for the Panels to evaluate. The evaluation Panels have three-year mandates. The first Panels appointed in 2010 will continue to work until the end of 2013, when the new Panels for 2014–2016 will be elected. According to the outlines of the Steering Group, the secretarial staff of the Publication Forum will be constituted by one full-time employee, and the operations under TSV will continue at least throughout the year 2012.

The mandate of the first Steering Group for the implementation of the Publication Forum classification ended on 29 February 2012. The new Steering Group to be elected will include 5 or 6 representatives of the major disciplines as well as those for UNIFI, the Academy of Finland, MinEdu, the National Library of Finland, the Council for Finnish University Libraries, CSC and TSV. The TSV representative will chair the Steering Group. The Steering Group will make the decisions on the maintenance and development of the classification, appoint the members of the Evaluation Panels in 2013 and inform their stakeholder organisations about the Publication Forum classification. The TSV Board will appoint the Steering Group in May 2012 for a three-year term.

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6 www.tsv.fi/julkaisufoorumi/haku.php
7 www.tsv.fi/julkaisufoorumi/ehdota.php
2. PUBLICATION FORUM CLASSIFICATION

Publication Forum classification completed in 2011

Completed in 2011, the first classification of scientific publication channels contains 20,691 titles in total: 19,481 journals and series as well as 1,210 book publishers. Among the 1,210 publishers, 1,081 (89.3%) were classified as level 1 and 129 (10.7%) as level 2. 15,387 (79%) journals and series of the aggregate 19,481 were level 1, 4,094 (21%) level 2 and 1,126 (5.8%) level 3 (Table 1):

Table 1. Breakdown of journals and series by Panel and level

<table>
<thead>
<tr>
<th>Panel</th>
<th>Number of journals and series</th>
<th>Share of journals and series in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Level 1</td>
</tr>
<tr>
<td>1 Mathematics and Statistics</td>
<td>1006</td>
<td>807</td>
</tr>
<tr>
<td>2 Computer and Information Sciences</td>
<td>1292</td>
<td>1070</td>
</tr>
<tr>
<td>3 Physical Sciences, Space Sciences and Astronomy</td>
<td>740</td>
<td>598</td>
</tr>
<tr>
<td>4 Chemistry</td>
<td>806</td>
<td>645</td>
</tr>
<tr>
<td>5 Geosciences and Environmental Sciences</td>
<td>899</td>
<td>731</td>
</tr>
<tr>
<td>6 Biosciences I</td>
<td>681</td>
<td>554</td>
</tr>
<tr>
<td>7 Biosciences II</td>
<td>958</td>
<td>769</td>
</tr>
<tr>
<td>8 Civil and Construction Engineering, Mechanical and Manufacturing Engineering</td>
<td>690</td>
<td>556</td>
</tr>
<tr>
<td>9 Electrical and Electronic Engineering, Automation, ICT</td>
<td>598</td>
<td>479</td>
</tr>
<tr>
<td>10 Chemical Engineering, Materials Engineering and Environmental Engineering</td>
<td>1053</td>
<td>847</td>
</tr>
<tr>
<td>11 Medical Engineering, Biotechnology and Basic Medicine</td>
<td>1650</td>
<td>1324</td>
</tr>
<tr>
<td>12 Clinical Medicine I</td>
<td>1110</td>
<td>888</td>
</tr>
<tr>
<td>13 Clinical Medicine II and Dentistry</td>
<td>1270</td>
<td>1022</td>
</tr>
<tr>
<td>14 Health Sciences and other Medical Sciences</td>
<td>1022</td>
<td>818</td>
</tr>
<tr>
<td>15 Agriculture and Forestry, Veterinary Sciences</td>
<td>880</td>
<td>704</td>
</tr>
<tr>
<td>16 Economics and Business</td>
<td>1321</td>
<td>1060</td>
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<tr>
<td>17 Social Sciences, Media and Communications and Interdisciplinary Social Sciences</td>
<td>2225</td>
<td>1797</td>
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<td>18 Psychology and Educational Sciences</td>
<td>1531</td>
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<tr>
<td>19 Political Science, Public Administration and Law</td>
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<td>1007</td>
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<td>20 Philosophy and Theology</td>
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<td>1018</td>
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<td>21 Language and Linguistics</td>
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<td>870</td>
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<tr>
<td>22 Literature, Arts and Architecture</td>
<td>1976</td>
<td>1600</td>
</tr>
<tr>
<td>23 History, Archaeology and Cultural Studies</td>
<td>2243</td>
<td>1794</td>
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</table>
For the entire list of journals and series, the shares of the various levels differ somewhat from those aimed at within the individual Panels since some Panels did not fill their quotas of level 2 and 3 of the journals and series on their list. Moreover, a considerable share of the journals and series were evaluated by several Panels. Of the 19,482 journals and series classified as minimum level 1, 12,967 (66.6%) were evaluated by only one Panel, 5,131 (26.3%) by two, 1,180 (6.1%) by three and 204 (1%) by 4–6 Panels. The percentage share of journals and series evaluated by one or several Panels varied by Panel (Figure 2).

In practice, the Panels had journals and series in common with almost all other Panels (Table 2). The top right corner of the Table indicates the number of the level 1 journals and series shared by the Panels while the bottom left contains the number of the level 2 series and journals shared by the Panels.

Of the 19,482 journals and series evaluated in the Publication Forum, 10,868 (56%) were included in the Web of Science database, with strong variation in the WoS coverage between the Panels (Fig. 3).

Table 2. Number of journals and series shared by the Panels (level 1, top right, level 2 bottom left)

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<td>1</td>
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The aim of WoS is to cover the leading international journals in different disciplines, and this was also reflected in the outcome of the rating. Of all the journals included in the WoS database, 7,216 (66%) were classified as level 1, 3,652 (23%) as level 2 and 1,090 (10%) as level 3. Among all level 2 journals, 89% were in the WoS database while the share was 97% for level 3.

The evaluation material of the Panels regarding the impact factors was based on the Scopus and WoS citation data, which, in turn, was based on the average accumulated citations of the publications in the journals. The weight assigned to the impact factors varied by discipline. However, the classification was not based directly on the impact values – not even in the Panels with the Journal Impact Factor (JIF) values playing a large role – since the Panels took the different sizes of the disciplines into consideration, ensuring their equal presence on levels 2 and 3. The JIF values have been calculated only on a very small share of the journals in the humanities. As a rule, there is a fairly strong correlation.
between the impact factors and the Publication Forum classifications (Fig. 4). The average JIF value of all level 2 and 3 journals in 2010 (3.3) is 2.8 times higher than for level 1 journals (1.2). In other words, the classification directs the researchers to publish in journals with a higher impact value.

The survey by Otto Auranen, Yrjö Leino, Olli Poropudas and Janne Pölönen focusing on the correlation between the citation indexes and the Publication Forum classifications based on the Finnish WoS publications appeared in 2004–2008, shows that the publications appearing in journals ranking higher in the classifications have also accumulated more citations on average, compared with those appearing in journals ranking lower (Fig. 5).8

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### Table 3. International field normalised citation score of Finnish publications by level in 2004–2008

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<th>Panel associated with publications</th>
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<th>Citation score</th>
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<td>4 Chemistry</td>
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<td>6 Biosciences I</td>
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<td>9 Electrical and Electronic Engineering, Automation, ICT</td>
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<td>24 Multidisciplinary journals</td>
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The international field normalised citation score for all Finnish WoS publications in level 1 journals in 2004–2008 was 0.67. This means that these publications have accumulated approximately 33% fewer citations than the world average. Correspondingly, the publications in the level 2 journals accumulated 8% more citations than the world average (citation score 1.08) while those in level 3 journals 73% more than the world average (citation score 1.73). If level 2 and 3 publications are seen as a whole, we can conclude that the publications in journals ranking higher (citation score 1.31) have accumulated almost twice as many citations as those in level 1 publications (Table 3).
The differences between the levels are further emphasised if we turn from the average citation accumulations to look at the share accounted for by the publications in different level journals among the world’s most cited decile of publications in the field in question (Top10-publications). The survey based on the Finnish WoS publications in 2004–2008 shows that the share of Top10-publications among all Finnish publications in level 1 journals is 54% smaller than the average (Top10-index 0.46). Compared to the world average, a 6% higher share of the level 2 publications (Top10-index 1.06) and a 109% higher share of the level 3 publications (Top10-index 2.09) were among the most cited decile of publications. Looking at the averages, the share of Top10-publications among the publications in higher ranking journals (Top10-index for combined level 2 and 3 journals is 1.43) was about three times as high as that of the publications in level 1 journals. As a rule, the share of Top10-publications was higher among the higher ranking journals, compared with the lower ranking journals (Fig. 6).

![Figure 6. Top10-index of Finnish WoS publications by level in 2004–2008](image)

The survey also showed that the share of uncited publications was as a rule higher among the journals ranking lower: in 2004–2008, the share of the uncited Finnish WoS publications was, on an average, 28.3% among the level 1 journals, 15.4% in level 2 journals and 9.9% in level 3 journals (Fig. 7).
Foreign models for classification of scientific publication channels

The first rankings and classifications of journals were performed to meet the collection management and development needs faced at scientific libraries. The purpose of the classification of chemistry journals made by Gross & Gross in 1926 was to study which publications series were indispensable in the collection of a university library with only scarce resources at its disposal. Later, the ranking of journals by their level has become more common also outside the library and information sciences, and at the same time the scope of application of the classifications has extended from collection management and development to research evaluation. In certain fields of the Anglo-Saxon academia, in particular, it is a generalised practice to evaluate the publishing by individual researchers on the basis of established journal classifications. The implicit requirement is that the researchers who wish to advance in their career must publish in the leading and important series of their particular fields. The journal classifications have also been used in a corresponding manner for the evaluation of degree programmes and university units.

It is only recently that the rankings and classifications have been used extensively for research evaluation at university and science system levels. For this purpose, comprehensive national classifications covering all disciplines have been designed in Norway (2004), Denmark (2008), Australia (2010) and Finland (2011). In 2007, the European Science Foundation published a preliminary ERIH classification that was partly updated in 2011. However, it was not designed as a tool for research evaluation. Nevertheless, in 2008, France designed a classification for the evaluation of university research, based on the ERIH classification but complemented from a national perspective and extended for the part focusing on the social sciences.
As any research evaluation methods, the classifications of publication channels have also inspired a critical debate both nationally and internationally. Most of the criticism is based on the assumption that the journal classifications would be used to evaluate individual publications or researchers. The major problem is that the quality of a publication cannot be determined solely on the basis of the journal or other publication channel. The classification level reflects the average level of the competition and peer evaluation passed by the publications but the high-ranking publication channels also include poorer publications with a modest subsequent impact, while individual publications which prove to have a high impact also appear in the lower ranking publication channels. For this reason, the use of the classifications for research evaluation purposes at individual researcher levels is associated with a significant margin of error.

However, it has been deemed possible to use the classifications as indicators of the level of publication activity at aggregate levels beyond individual researcher or researcher groups. The criticism in these cases is often targeted at the evaluation cultures underlining accountability, increasingly frequent within the science administration, as well as at the related quantity-based measuring of research quality using bibliometric indicators. The critical debate on the use of the classifications at the macro level seems to focus, on the one hand, on the fact that they tend to favour the research published in international (mostly published in English) scientific journals as well as the mainstream research in established research areas. On the other hand, the adverse consequences of the mechanistic use of journal classifications in the research evaluation and steering within the research organisations have also been highlighted.

The same criticism is repeated with any journal classification, although there are significant differences between the evaluation models based on the classifications of scientific publication channels. It is important that we distinguish the Australian and Nordic models from each other in this context. An important element of the criticism which resulted in Australia fully giving up the classifications of journals and series in 2011 was related to the fact that the model was deemed to discriminate against multidisciplinary, national research topics as well as disciplines that produce separate monographs and anthologies. The shortcomings of the Australian models have been avoided, at least partly, by the different structural solutions of the Nordic models:

- The Australian classification only applied to scientific journals and publication series while those in Norway, Denmark and Finland also cover book publishers. Therefore, the Nordic model includes all major publication types, including articles in anthologies and monographs, and not just papers in journals and conferences like the Australian model did.
- In the Australian classification, there were 1–3 determined disciplines for the journals and the classification of the journals only applied to those. The Norwegian, Danish and Finnish classifications apply to the publications from all disciplines. Therefore, the Nordic model is more successful in catering for the multidisciplinary publications than the Australian model which failed to consider the publications that appeared in a journal of another discipline.
- In the Australian classification, the series that had mostly national impacts were automatically ranked in the lowest C category while the Nordic systems classify both national and international publication channels as basic level (1) and leading level (2).
Although the Norwegian, Danish and Finnish classifications award a particular weight to the international dimension, the Nordic model also values the national publications, more so than the Australian model. Based on the decision of February 2012 by the Steering Group, the status of the journals and series in Finnish and Swedish as well as those published in languages other than English, has been particularly enhanced in the Finnish Publication Forum classification.

The major reasons for Australia terminating the classification operations were, however, related to the universities using it as a steering instrument to govern their publication activity and the consequences of this were deemed to be detrimental to research. The examples of this include the targets set for the share of A category publications and the respective incentive system leading to such quotas as well as the efforts to fully prevent researchers using any lower category journals and series. The use of classifications as the criteria for funding and recruitment decision was also deemed unfair.9

Norway and Denmark who have been using the Nordic model for a few years now, have not been faced with the negative experience gained with the Australian national classification and the adverse uses made of it – at least not to the same extent. This could, in part, be explained by the above-mentioned structural differences between the classifications as well by the open Nordic debate on the problems associated with the classification and on the rational use of the system. The premises of the Australian model may have been rooted deeper in the evaluation culture of the Anglo-Saxon universities where the journal classifications have been used to evaluate individual researchers while the Nordic classifications have been introduced mainly as a tool for evaluating large numbers of publications at university level or the whole university system level.

The premises of the recently completed Finnish Publication Forum classification are based on the Norwegian and Danish models. The designers of the project could avail themselves of the expertise offered by Professor Gunnar Sivertsen (NIFU research institute, Norway) on Nordic classifications. Professor Sivertsen also personally presented the Norwegian and Danish experiences in the first meeting of the Panel chairs of the Publication Forum, arranged in November 2010. The project Secretariat, accompanied by representatives of CSC and MinEdu, visited both Copenhagen and Oslo in February 2011 to learn more about the Danish and Norwegian systems. Nevertheless, the Nordic systems also contain certain structural differences influencing the outcome of the classification:

- In Norway and Denmark, the journal and series lists of the Panels are exclusive, meaning that a journal or series can only be included in the list of one Panel. The lists of the Finnish Panels are partly overlapping, in other words, the journals and series can be included in the lists of one or multiple Panels. The Finnish practice aims at taking the multidisciplinary

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9 For example, Kim Carr, “Improvements to Excellence in Research for Australia”:
aspects of scientific publication into consideration by evaluating the same journals and series from various Panels’ perspectives. At the same time, however, the partly shared lists add to the evaluation burden of the Panels, causing a need to coordinate the eventual differences in the rankings.

- In Norway and Denmark, the share of level 2 has been calculated on the basis of the annual volume of papers published in the journals and series covered by each panel while the Finnish calculation of the share of level 2 is based on the number of journal and series titles covered by the Panels. For this reason, the number of level 2 journals and series in the Finnish classification is larger, and the share of level 2 publications is thence also larger and varies more by discipline compared with Norway and Denmark. On the other hand, the Finnish evaluation is based “purely” on the level of the journals and series while in Norway and Denmark a publication channel meriting a level 2 rating may have become level 1 based on its large publication volume.

- The Danish and Norwegian classifications have two levels while in Finland a separate level 3 has been distinguished among the level 2 journals and series (maximum 25% of the level 2 journals and series in each Panel).
3. OTHER PROJECT-RELATED OPERATIONS

The Publication Forum has opened its own website10 and Facebook account.11 Ilkka Niiniluoto, Chancellor of University of Helsinki and Chair of the Steering Group, wrote about the background and objectives of the Publication Forum project in his article “Julkaisufoorumi kannustaa laatuun” (Publication Forum spurs quality) published in issue 6/2010 of the Tieteessä tapahtuu magazine focusing on news in science. Aura Korppi-Tommola, Executive Director of TSV has provided the TSV Board and member societies with regular updates of the progress of the project. The Coordinator and Project Secretary have contributed to the public debate on the Publication Project in the newspaper Helsingin Sanomat (28 April 2011) and the journals Sosiologia (issue 2/2011), Kosmopolis (3/2011) and Yliopisto (issue 12/2011) as well as in several Internet discussion forums. Some Steering Group and Panel members have also participated in the public debate.

The project has been presented in several events:

- Meetings of the University Vice-Rectors responsible for research, October 2010 and May 2011
- Seminar *Julkaisijan iltapäivä* (Afternoon with publishers) arranged by the Helsinki University Library, December 2010
- Meeting of the steering group of the university and research unit of MinEdu, September 2011
- Seminar *Tutkijat, kirjastot ja tutkimuksen arviointi* (Researchers, libraries and research evaluation) arranged by the Scientific Library Society, November 2011
- Seminar on benefits at the *Kasvatustieteiden päivät* (Educational Science days), November 2011
- Result seminar of the *Julkaisurekisteri* (publication register) project, November 2011
- Meeting of the scientific committee of the Tampere University of Technology, December 2011
- Seminar *Julkaiseminen Lapin yliopistossa* (Publishing at the University of Lapland), February 2012

A seminar on the Publication Forum classification was arranged on 6 February 2012 (10.00–16.00) in the auditorium of the Arppeanum University Museum. The event attracted about 230 exponents of the science community and administration, and the online web-streaming was followed by over 300 persons. The seminar discussed the first classification drafted in 2011 as well as the ways to develop and use the classification. The slides of the speakers and the video recordings of the speeches and discussions can be downloaded at the Publication Forum website (in Finnish).12

The Publication Forum project has also engaged in research and survey work. In September 2010, the Coordinator and Project Secretary attended a Nordic workshop on bibliometrics and science policy

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10 http://www.tsv.fi/julkaisufoorumi/index.html
12 http://www.tsv.fi/julkaisufoorumi/seminaari.html
arranged by the University of Bergen, and in September 2011 they participated in the *Measuring Science and Research Performance* course organised by the University of Leiden, Centre for science and technology research (CWTS). In collaboration with Yrjö Leino of CSC, the Coordinator and the Project Secretary wrote the conference paper “Coverage and Rating of Journals and Publication Series: comparison of six data sources”, presented by Leino in the ENID STI Indicators conference in September 2011 in Rome. February 2012 saw the completion of the survey prepared in collaboration with Yrjö Leino (CSC) and Olli Poropudas (MinEdu) based on the WoS database materials and focusing on the comparison of the Publication Forum classification and the citation indicators.

The Publication Forum project has worked in close contact with other national development projects. The Coordinator served as an expert member in the steering group of the JURE project with the task of investigating the implementation of a national publication register. He was also a member of JURE’s working group I, and with the Project Secretary in working group II for citation indexes. The report from the Finnish Citation Index Working Group II “Finnish research organizations’ publications and citations in the Web of Science, 1990-2009” came out in the MinEdu publication series towards the end of 2011.

The Publication Forum project also followed the operation of the working group instituted by MinEdu focusing on the reform of the university financing model. In October 2011, the Publication Forum Steering Group provided the financing model working group with its views on the issues to be considered when publications and the Publication Forum classification are used as a financing criterion. In November 2011, the working group proposed that the Publication Forum classification should become one financing criterion. According to the proposal, 13% of the State appropriation to universities should be determined on the basis of their publication activity as of the year 2013. Starting from the year 2015, 10% of the funding would be allocated on the basis of level 2 and 3 publications and 3% on level 1.

14  http://www.socialsciences.leiden.edu/cwts/education/graduate-course2-cwts.html
15  http://www.enid-europe.org/conference.html
APPENDIX 1. USER INSTRUCTIONS OF THE PUBLICATION FORUM CLASSIFICATION

The objective of the Publication Forum classification is to cover the major scientific publication channels in all disciplines (level 1) as well as to identify those of the highest quality and widest impact (level 2 and 3) among them. The classification was performed for the first time in 2011, and about 19,500 journals and publications series and about 1,200 book publishers were rated on that occasion. The classification is a result of the work of 210 expert members in 23 Evaluation Panels representing various disciplines. The institution of the Panels and the supervision of the work was the responsibility of the Steering Group, with members from e.g. TSV, UNIFI, the Academy of Finland, MinEdu and university libraries. The classification is maintained by the Federation of Finnish Learned Societies, TSV. In research evaluation, the classification is suited for:

- the evaluation of large publication quantities, such as the entire production of universities or research institutes but not for the evaluation of individual researchers
- the comparisons between publications in the same discipline but not for interdisciplinary comparisons

CRITERIA OF QUALITY CLASSIFICATIONS

Scientific publication channels

The term ‘scientific publication channel’ refers to printed and digital journals, regular conference proceeding series as well as to the publishers’ anthology and monograph series specialised in the publication of scientific research outcomes. They have an editorial board constituted by the experts of the discipline in question, and the publication calls for a quality evaluation in accordance with the best practices in the discipline, above all peer evaluation. A scientific publication channel can also be a full book publisher with scientific publications in anthologies or monographs that are not included in a series of volumes. If the rating of the publisher and series differ in the case of monographs and anthologies, the level of the publication should be determined on the basis of the higher rating. The quality assessment always applies to both the printed and the digital version of the publications channel and will be the same for all the publications in them, irrespective of the discipline.

Level 1 (80% of the classified journals and series, 90% of the classified book publishers)

Domestic and foreign publication channels in the various disciplines, most important from the Finnish research perspective, meeting the definition of a scientific publication channel. However, level 1 rating has not been awarded to the local publication channels meeting the criteria of a scientific publication channel where the majority (2/3) of the editorial board and authors come from the same research organisation. Moreover, series of doctoral theses have not been separately rated but the doctoral theses of Finnish universities are classified as at least level 1 scientific publications so that a monograph thesis corresponds to a level 1 separate work while a thesis made of articles qualifies as a level 1 original article even if they have been published in a channel with no Publication Forum classification.
**Level 2 (20% of the classified journals and series, 10% of the classified book publishers)**

Leading scientific publication channels of the various disciplines, with the researchers from various countries publishing their best research outcomes. Level 2 includes mainly international scientific publications channels, with the editors, authors and readers representing various nationalities. However, level 2 also includes leading Finnish and Swedish-language publication channels reaching the international expert audience in their respective fields or covering the research in the special features of the Finnish society, culture or history in the particular field as widely as possible. (The classification system will be complemented in this respect during the spring of 2012).

**Level 3 (25% of level 2 journals and series)**

The journals and series with the widest impact among the level 2 journals and series. Level 3 includes journals and series with the research published in them representing the highest level of the discipline or research area in question and with extremely consistent impact (e.g., as measured through citations). The level 3 journals and series cover the discipline or research area comprehensively and do not focus on the discussion of narrower special themes. Both the authors and readers are international and the editorial boards are constituted by the leading researchers in the field. Publication in these journals and series is highly regarded among the international research community of the field.

**USE OF PUBLICATION FORUM CLASSIFICATION IN RESEARCH EVALUATION**

*Publication Forum classification is designed as indicator of quality of large publication volumes*

The classification is based on the notion that the quality of large publication volumes can be evaluated on the basis of the publication channels chosen and attained by the researchers. As a rule, it is expected that the highest quality publications end up in the higher ranking publication channels as a consequence of extensive competition and demanding peer evaluation. The level of a scientific journal, series or book publisher is a very rough indicator of quality, and therefore the classification is best suited for macro-level analyses of the publication production at the level of countries, entire research organisations (such as universities or State research institutes) or research areas. The purpose of the Publication Forum classification is to serve as the quality indicator of the whole scientific publication production of universities within the MinEdu model of financing appropriation as of 2015.

*Publication Forum classification can be used to follow development of research*

In the internal use of research organisations, the classification is best suited for the follow-up of the progress made within the research area's or unit's own publication activity. The results can be used as information to the expert panels evaluating the research. However, it is not justified to apply the classification levels retroactively far into the past because they reflect the current valuations of the scientific community. When the classification is used, both the publications on level 1 and those on levels 2 and 3 must be taken into consideration. It is recommended to listen to the researchers about
their views on the applicability of the classification on the research evaluation in various disciplines and research areas. The classification must not be used mechanically in research evaluation and steering, and it is an intrinsic part of the researchers’ freedom to choose the publication channels that they find most appropriate for their own work.

**Publication Forum classification is not suited for interdisciplinary comparisons**

The Publication Forum classification is a quality indicator that depends on the discipline. Due to differences in publication practices, different disciplines and research areas produce divergent numbers of level 2 and 3 articles and books. The publication profile of researchers is determined, among other issues, by the global or local character of the data and problems. In many areas of natural, medical or technical sciences, the publications are concentrated in the same international journals which are highly appreciated by the research community and which have large publication volumes. In social sciences and humanities the research problems associated with a certain cultural and historical situation also play an important role. In these fields of research, the publications are distributed in relatively small-sized international and national journals, an important part of the research is published in anthologies and monographs, and co-authored publications are not as common as in natural, medical and technical sciences. Publication practices also differ within various disciplines.

**Publication Forum classification is not suited for evaluation of individual researchers**

The quality levels applied in the Publication Forum predict the average quality and impact of large publication volumes but they are too arbitrary a tool for the evaluation of individual publications or researchers. The classification indicates the level of the competition and peer evaluation the publication has gone through but level 1 publication channels include individual publications with above the average quality and impact while level 2 and 3 channels also include below the average, uncited publications. Under no circumstance can the classification substitute the peer evaluation based on the contents of the publication in the evaluations of individual researcher or research groups.

**Publication Forum is updated regularly**

The evaluation panels update their ratings every three years, and the following round will take place in 2014. In the intermediate years, the Panels award level 1 ratings to journals, series and book publishers that meet the criteria. The Publication Forum website has a facility for suggesting non-ranked publication channels for inclusion in the classification.
FURTHER INFORMATION

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Publication Forum website: www.tsv.fi/julkaisufoorumi

Publication Forum in Facebook: http://fi-fi.facebook.com/pages/Julkaisufoorumi/339468932747959

Search of publication channels, suggestions: www.tsv.fi/julkaisufoorumi/haku.php