Publication data collection instructions for researchers

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Purpose of the instructions

Until now, the Ministry of Education and Culture had provided instructions on publication data collection, primarily aiming them at persons in charge of data collection in higher education institutions. The technical data collection instructions for publications have been part of an extensive data collection manual whose contents the Ministry updates each year in conjunction with higher education institutions.

The current instructions are based on the data collection manual, but they only apply to publication data collection. The instructions have been grouped and expressed in slightly different terms as compared to the manual in order to provide instructions that appeal to the researchers and are as intelligible to them as possible. The objective is to decrease the need for higher education institutions to maintain their own detailed instructions and to harmonise the description of publications. All higher education institutions organise the collection of publication data as per their wish. However, this is done in a manner which allows reporting on minimum data required by the Ministry. For this reason, higher education institutions may give instructions complementary to the current instructions.

The instructions will be updated as required, as the data collection procedure at the Ministry of Education and Culture changes.

The purpose of these instructions is to define scientific, professional and popular publications. Artistic (publication type F) and audiovisual materials as well as IT and communication technology programmes (publication type I) will be defined in more detail in the annual data collection instructions by the Ministry of Education and Culture.

Publication data collection by the Ministry of Education and Culture

The purpose of the Ministry of Education and Culture for collecting publication data from higher education institutions is to produce a knowledge base on the research activities and the social impact of the higher education institutions. The Ministry uses the publication data collected from higher education institutions not only as a knowledge base for calculating the basic funding allocated to universities and universities of applied sciences, but also for otherwise monitoring research and development activities. The publication data collected can be openly viewed in the JUULI publication data portal (www.iuuli.fi). As for the statistical publication numbers, they can be viewed in the Finnish National Board of Education statistical service Vipunen (www.vipunen.fi).

For data collection, the publications are classified based on features such as their format (<u>publication type classification</u>), scientific quality (<u>Publication forum</u>) and contents (<u>field of scientific classification</u>). Classifications are used in an attempt to harmonise the knowledge base required for evaluating the publication activities of Finnish research organisations. The purpose of the publication data collected and the classifications applied to them, is also to act as a general national standard for outlining publication activities not only for monitoring the research activities of higher education institutions, but also in materials such as researcher CVs or publication lists attached to funding applications.

Definition of publication

The Ministry of Education and Culture publication data collection applies to publications that are significant for monitoring research and development activities. The data collection procedure does not apply to all publications derived from research activities. For instance, researchers give discourses, lecture, present

their research at various events (e.g. posters), in the press and electronic media, but these performances and output are not part of the Ministry of Education and Culture publication data collection from the higher education institutions. Higher education institutions may collect information on the expert duties and researcher activities mentioned above, for their own needs.

The publications reported on, in the framework of the Ministry of Education and Culture data collection must meet the following criteria:

- The publication should be publicly available to anyone.
- The publication channel must have an editorial board or a publisher independent of the author, who makes decisions on publications published on the channel.
- The publication has not been previously published in a format which can be reported on in the data collection system.
- The author is linked to a higher education institution.
- The publication is based on research or expert activities carried out by the author at a higher education institution.

As for documents only shared in **electronic format** (e.g. online newspapers, online platforms), only the documents meeting the publication criteria set above will be reported on.

The definitions mentioned above only apply to scientific, professional and popular publications (publication types A to E). The art publications and artistic outputs, theses, patents, invention notifications, audiovisual materials and IT programmes reported on will be defined in the Ministry of Education and Culture annual data collection manual.

Public nature

The publication is of a **public nature**, if it is available to anyone without a charge or for a fee. For instance, a publication only distributed to conference participants or to those with limited online access is not publicly available, and therefore, it cannot be reported on in the data collection procedure. The existence of an ISSN or ISBN identifier is regarded as an indication of a publication which was originally intended to be publicly available.

External publisher

Publications that are reported must always be published by an **external publisher**. For this reason, privately printed documents or documents published on the author's website will not be reported on. Furthermore, publications published by the author through the publication archives of individual libraries will not be reported on, unless an external piety independent of the researcher has decided to publish them.

Novelty

Publications must include **new** scientific, professional or artistic content that has been previously unpublished in a format reported on in the data collection procedure. So, a publication saved for instance in a publication archive (e.g. arXiv.org) may be reported on once it has been published in a magazine or in another format, which can be reported on. Nor are translations of the authors' own texts, translations of texts by other authors or new editions of publications reported on, unless the publication has been modified to a significant degree as compared to the previous edition. Furthermore, updates to online publications will not be reported on new publications.

Author's link to a higher education institution

The publication **author's link to a higher education institution** means on a general level that the higher education institution has enabled the creation of the publication and the research required for it. In practice, this means that the author is in the service of the higher education institution or is otherwise part of the institution community (post-graduate students according to the criteria given below) or that the higher education institution has otherwise enabled the publication.

In case of post-graduate students at universities, the publications of those post-graduate students will be recorded who A) actively attend teaching aiming for a post-graduate degree and B) have been receiving a regular grant for at least 6 consecutive months. In case the author of the publication is not attached to the higher education institution based on a service contract or the right to a post-graduate degree, the author must have received the resources and the working environment (equipment, materials, research group) which enabled the active research. As a result of the new status of universities, a docentship will become an honorary title and thus is not adequate proof of affiliation to a university on its own.

The affiliation with the higher education institution is primarily established on the basis of affiliations cited by the author in the publication (in other words, the author gives the name of the institution as the author's home organisation in the publication). For this reason, researchers must be particularly careful to include the name of the higher education institution in the publication in the correct format. Publications will be recorded for the higher education institution in which the research associated with the publication was mainly carried out, even if the researcher had moved on to another organisation before the publication came out.

Undergraduate student publications are not taken into account in the Ministry of Education and Culture publication data collection.

Publication is based on research activities carried out by the author

The publication must be based on **research or expertise activities** carried out by the author at a higher education institution. For instance, publications exclusively related to extracurricular, third sector or business activities and not based on research activities will not be reported on. Nor will publications exclusively intended for marketing communications be reported on.

Types of publication

Based on the purpose of the publications, they may be coarsely divided into six groups determined based on the primary target group of the publication channel.

Publication types A, B and C are publications intended to promote science and to produce new information mainly to be used by the researcher's own scientific community. They fulfil the definition of a scientific publication.

Publication type D includes publications intended to disseminate research-based information for the use of a professional community. They fulfil the definition of a professional publication.

Publication type E includes publications disseminating scientific and professional information in the surrounding society.

Publication type F includes the public outputs of artistic activities.

Publication type G includes theses.

Publication types H and I are other higher education institution publications resulting from the research activities of higher education institutions. Their format differs from that of the previous categories.

Definition of scientific publication (publication type main categories A, B and C)

The common feature of scientific publications is that they fulfil the following three conditions:

- 1. The publication must produce new information in relation to previous research data on the same subject.
- 2. The publication must be presented in a format that allows the verification of the research results and/or use of the research results in a new research, thus enabling other researchers to assess the research results and use them in their own work.
- 3. The publication channel for the publication specialises in publishing scientific research results, and it has an editorial staff consisting of the experts in the concerned field of science as well as a <u>peer review practice</u>. (Note: non-refereed publications may also be published on scientific publication channels).

All criteria are applied according to the established practices for each field of science.

Definition of professional publication (publication type main category D)

Professional publications refer to publications that disseminate information based on research and development for the use of the professional community. The readership of professional publications mainly includes persons trained in the field, applying the information to their practical work. The target audiences of scientific and professional publications may be partly the same, and individual articles published in both groups may be very similar.

Professional publication channels include the following professional journals:

Metsälehti, Käytännön maamies, Sosiaalitieto, Kehittyvä elintarvike, Acatiimi, Journalisti, Arkkitehti, Sairaanhoitaja, Puutarha & kauppa, Ulkopolitiikka and Opettaja.

Trade journals are an exception to this rule in that they also publish refereed scientific articles. Refereed scientific articles published in trade journals classified on levels 1 to 3 (e.g. *Duodecim, Suomen lääkärilehti, Liikunta ja tiede*) are entered under publication types A1 or A2 despite the fact that these journals are primarily aimed at the professional community. Non-refereed articles in these journals will be entered under publication type D1 (article in a trade journal).

Various analyses and reports based on scientific research and development produced to support political or professional decision-making, typically commissioned and published by a public party such as a ministry, an agency or a state research institution, are also reported on as professional publications. They are entered under publication type D4.

Definition of popular publication (publication type main category E)

Popular publications refer to publications that disseminate information based on research and development to the public. Understanding their contents does not require particular familiarity with the field. Examples of popular publications include popular books, newspaper articles, popular magazine articles and network platform articles participating in public discussion.

Definition of artistic publication (publication type main category F)

Artistic publications refer to the public outputs of artistic activities. Artistic publications have been defined in the Ministry of Education and Culture data collection manual.

Definition of peer review

The peer review of scientific publications refers to a procedure by which a journal, conference or publishing house publishing research results requests that experts in the field of science carry out a preliminary evaluation of the scientific fitness for publication of manuscripts intended for publication. Publication data collection requires that peer review meets the following criteria:

- The publication evaluators have been independent, in terms of the manuscript to be evaluated. Independent evaluators refer to accomplished researchers or other experts who are not editors of the publication series (journal or book series) or the publication (research book, journal special issue, conference publication).
- The process assesses the completeness of the material and the management of the theoretical frame of reference, the reliability of how the research has been carried out and its accuracy, the originality of the results and their novelty value in relation to previous research as characteristic of the field of science.
- The evaluation has covered the entire manuscript offered for publication rather than just an abstract or extract.
- The author has received a written referee statement of the peer review (original statement of a summary by the editorial staff/editor in chief).

In unclear cases, it must be possible to verify the peer review based on a written statement. As for the publications reported on, peer review is required for publication types A1, A2, A3, A4, C1 and C2. If a Finnish science publisher uses the FFLS peer review identifier, only articles and separate books containing the identifier will be reported under the publication types mentioned above (http://www.tsv.fi/tunnus/listaus.php).



<u>Note</u>. Contrary to the previous instructions, an external evaluator independent of the author (not the editor of the book) is also required for refereed research book articles (A3). In addition, a peer review is also required for separate scientific books (C1).

Publication type classification

Criteria set out on page 2 concerning all publication types (public availability, external editorial staff, novelty, the author's link to the higher education institution and the research-based nature of the publication). The table below indicates the minimum requirements for each publication type:

A Peer-reviewed scientific articles

- They fulfil the definition of a scientific publication;
- They fulfil the definition of peer review;
- The journal/series publishing the article has an ISSN identifier, and research books have an ISBN identifier.
- If the article is an introduction to a book or a journal, the author must provide a research contribution

to it;	
A1 Journal article – refereed	An article in a scientific journal, series or yearbook;Mainly includes unpublished material;
A2 Review article in a scientific journal	 A review article (e.g. review, systematic review, meta-analysis) in a scientific journal, series or yearbook; Fulfils the definition of a scientific publication with the exception of the requirement to generate new information; Is based on key original article material on the subject;
A3 Part of a book or another research book	 An article, an introduction or a preface in a published scientific re- search book consisting of articles by various authors;
A4 Article in a conference publication	 Published regularly in the printed or otherwise publicly available publication of a scientific conference; A complete written version of a conference presentation (full paper); Conference publications are typically published in xx fields. In other fields, conference articles are mainly research books or special issues of journals; The refereed articles in research books consisting of one-off conferences are entered under category A3 and the refereed articles of special issues in journals under categories A1 to A2.

B Non-refereed scientific articles

- They fulfil the definition of a scientific publication;
- The journal/series publishing the article has an ISSN identifier, and research books have an ISBN identifier.
- If the article is an introduction to a book or a journal, the author must provide a research contribution to it;

B1 Article in a scientific maga- zine	 Non-refereed articles in scientific magazines, such as articles, brief case reports, brief review articles, editorials, book reviews, discus- sions, letters or comments
B2 Part of a book or another research book	- An article, an introduction or a preface in a published scientific research book consisting of articles by various authors
B3 Non-refereed article in con- ference proceedings	 Published regularly in the printed or otherwise publicly available publication of a scientific conference; A complete written version of a conference presentation (full paper); Conference publications are typically published in xx fields. In other fields, conference articles are mainly research books or special issues of journals; The non-refereed articles in research books consisting of one-off conferences are entered under category B2 and the non-refereed articles of special issues in journals under category B1;

C Scientific books (monographs)

- They fulfil the definition of a scientific publication;
- They fulfil the definition of peer review;
- The book has an ISBN number

C1 Separate scientific books	- The entire book was written by its author(s);
	- A new edition of the book may be reported on if the book has been
	modified sufficiently compared to the previous edition.

	(Note. Non-refereed monographs are entered under category D4, D5 or E2)				
C2 Edited books	 Edited scientific books or special issues of journals consisting of various articles by different authors; The authors have been in charge of editing the book, and their names are indicated among the editors. (Note. Non-refereed edited books are entered under category D6 or E3) 				

D Publications intended for professional communities

- They fulfil the definition of a professional publication;
- These also include publications in journals with no ISSN identifier or scientific books with no ISBN identifier
- If the article is an introduction to a book or a journal, the author must provide a research contribution to it;

D1 Article in a trade journal	An article in a journal for the professional public;An article in a scientific journal with no ISSN identifier.
D2 Article in professional manuals or guides or profes- sional information systems or text book material	 An article in a professional manual or guide, information system or research book, text book material or short articles in an encyclopaedia. Note. the research contribution in the introduction or preface
D3 Professional conference proceedings	 Published regularly in the printed or otherwise publicly available publication of a scientific conference; A complete written version of a conference presentation (full paper)
D4 Published development or research report or study	 A published development or research report or study based on research or expert work The publisher is generally a non-scientific publisher, usually a public party such as a ministry, a provider of funds, a higher education institution or research institution.
D5 Text book, professional manual or guide or a dictionary	 A published professional book, text book, a professional manual or guide or a dictionary. The book has an ISBN number (The category does not only include handouts, online or other similar material created solely for a single course)
D6 Edited professional books	 An edited, published professional research book consisting of articles by various authors; The authors have been in charge of editing the book, and their names are indicated among the editors.

E Publications intended for the general public

- They fulfil the definition of a popular publication

An article, review or editorial in a journal, series or research book for the public. The category does not include brief comments or letters to the editor. Long addresses in which the individual often uses the name of the home organisation will be taken into account in the data collection procedure (e.g. expert articles in Helsingin Sanomat, the Tebatti addresses in Talouselämä magazine).

	- Articles written by the author while working for the magazine are not included in the category.				
E2 Popularised monograph	- A published non-scientific, popular book				
E3 Edited popular book	 An edited, published popular research book consisting of articles by various authors; The authors have been in charge of editing the book, and their names are indicated among the editors. 				
F Public artistic and design activ	rities				
- Fulfil the definition of an artis ture data collection manual.	tic publication, see the definitions in the Ministry of Education and Cul-				
F1 Published independent work of art					
F2 Public partial realisation of a work of art					
F3 Artistic part of a non-artistic publication					
G Theses					
G1 Polytechnic thesis, Bachelor's thesis					
G2 Master's thesis, polytechnic Master's thesis					
G3 Licentiate thesis	- Note. If the work consists of articles, the articles will be entered separately under categories A to E;				
G4 Doctoral dissertation (monograph)	- A doctoral dissertation (monograph) published in a university or institutional series, a published doctoral dissertation (monograph) or privately printed doctoral dissertation (monograph);				
G5 Doctoral dissertation (article)	- Note. If the work consists of articles, the articles will be entered separately under categories A to E;				
H Patents and innovation annou					
	ducation and Culture data collection manual.				
H1 Granted patent					
H2 Invention announcement					
I Audiovisual material, ICT softv					
	Education and Culture data collection manual.				
I1 Audiovisual material					
I2 ICT software					

Selection of the publication type for the publication

	ARTICLES				SEPARATE BOOKS			
		IN JOURNALS		INI DECENDOL	IN CONFER-	MONO-	EDITED	
		Original Review BOOKS		ENCE PUBLICA- TIONS	GRAPHS	BOOKS	REPORTS	
REFEREED	Scientific	A1	A2	A3	A4	C1	C2	
NON DEED	Scientific	B1		B2	В3	D5/E2	D6/E3	
NON PEER REVIEWED	Professional	D1		D2	D3	D5	D6	D4
REVIEWED	Popular			E1		E2	E3	

Publication forum

<u>The publication type classification</u> classifies individual publications based on their format and target group, whereas the <u>Publication forum classification</u> is used to provide a level category for the publication channels (journal, series, conference or publishing house). Publications under various publication types may be published on an individual publication channel (e.g. both refereed and non-refereed publications may be published in a journal).

Publications published in channels listed for levels 1 to 3 are scientific publications (A to C), with a few exceptions: Some trade journals (e.g. *Suomen lääkärilehti, Duodecim, Liikunta ja tiede*) publish both refereed scientific articles and articles targeting the professional public.

However, the publication may be scientific, and it may be entered under publication types A to C though its publication channel has not been approved for level 1 to 3 in the Publication forum. These include e.g. local publication channels (e.g. the publication series of universities).

Fields of science classification

In publication data collection, fields of science refer to the contents of the publication. The field of science is not primarily determined based on the publication channel or the home department or unit of the authors but rather on the contents of the specific publication.

One to six fields of education are given for the publication in the order of relevance of each field to the publication. The first field is the so-called primary field of science used for instance for the compilation of statistics on publications. Information on the field of science is essential for monitoring research activities.

For the classification of publications, the 2010 Statistics Finland Field of science classification is applied.

Data collected on publications

The reference data collected on the publication types A to E have been listed in the table below:

Reference data	
1 Publication type*	Category under the <u>Publication type classification</u> .
2 Field of science of publication*	One to six fields of science according to the <u>Statistics Finland Field</u> of science classification in the order of relevance of each field to the publication. The first, so-called primary field of science, is mandatory.
3 Publication field of education*	One to six fields of education given in the order of relevance of each field to the publication. The first, so-called primary field of education, is mandatory.
4 Organisation authors*	Researchers at the <u>higher education institution</u> involved in producing the publication. The names will be given in the following for-

	mat: Surname, forename				
5 Organisation sub-unit	Faculties, departments or units (max. 20) of the higher education institution whose staff includes the authors of the publication.				
6 Publication authors*	Full information on the publication authors is given in the format and order in which they were listed in the original publication or source database.				
7 Number of authors in publication*	The total number of authors in the publication. If the number of authors exceeds 50, it is sufficient to enter '50'. If the authors comprise groups, the group members will be included as authors following the common practice in the field of science in question, or as agreed between the research groups.				
8 International co-publication* (yes/no)	At least one author of the international co-publication is affiliated to a non-Finnish organisation (the author may also be affiliated to both a Finnish and a foreign organisation). The foreign editor of the publication channel does not yet meet the criteria for international co-publications.				
9 National co-publication* (yes/no)	At least one author of the national co-publication is affiliated with a national research organisation other than a higher education institution, grouped as follows: A) university hospital district, B) state sector research institution or C) other national research organisation.				
10 Publication name*	Publication name as given in the article or the book. If necessary, the name of a foreign-language publication may be reported on as a transliterated version.				
11 Year of publication*	The year in which the publication was published for the first time as a version with full reference data.				
12 Volume	Volume of the journal or series in which the article appeared.				
13 Issue	Issue of the journal or series in which the article appeared.				
14 Pages	Publication page numbers on which the article was published in the same format as in the original article or source database.				
15 Article number	Article number used for the publication of the article (if applicable) was published in the same format as in the original article or source database.				
16 Publication language	The language used to write the publication according to the <u>Statistics Finland Languages 2003 classification</u> .				
17 Journal/series name*	Journal/series name, as complete as possible, and spelled out (no abbreviations). If the name of a conference article journal/series is unknown, the established conference name will be indicated without the ordinal and year and with no abbreviations.				
18 ISSN**	The ISSN number of the series publishing the journal, monograph or parent publication according to the primary printed version. If there is no printed version, the ISSN number of the electronic version will be indicated.				
19 ISBN**	Publication or parent publication ISBN number.				
20 Parent publication name***	Name of the edited book in which the article was published. The name of the parent publication of conference publications will be				

	written as indicated on the publication.				
21 Parent publication editors	Editors of an edited publication in the format and order in which they were listed in the original publication or source database.				
22 Publisher***	Publisher name, as complete as possible, and spelled out (no abbreviations).				
23 Place of publishing	The place or places given in connection with the publication's publisher.				
24 Country of publication	Country of publication of the journal, series, monograph or parent publication according to the <u>Statistics Finland Countries 2007 classification</u> .				
25 Internationality of publication (domestic/international)	The publisher of a Finnish publication is Finnish, or it was mainly published in Finland. The publisher of an international publication is not Finnish, or it was mainly published outside Finland. The publisher of a conference publication refers to the publishing house.				
26 DOI code	Publication DOI code.				
27 Permanent website address	Website address based on permanent identifiers (e.g. DOI, URN or handle) of the publication that takes the user directly to the full text version of the publication (a publicly available version or a limited access version on the publisher's server).				
28 Open access*	Open access to a publication according to the following classification: no open access/ open access/open access, saved side by side/unknown.				
29 Source database code	Publication identifier or ID number in the database from which its record was derived (e.g. Web of Science, Scopus, Pubmed, ArXiv, Cab Abstracts, Arto, Fennica).				
30 EVO publication (yes/no)	Only applies to healthcare and medical publications. The so-called Articles included in the so-called EVO application (special central government transfer application) submitted to the Ministry of Social Affairs and Health that have appeared in journals with an impact factor value or in one of the following Finnish journals: Duodecim, Suomen Lääkärilehti, Suomen Hammaslääkärilehti, Hoitotiede, Finska Läkaresällskapets handlingar and Sosiaalilääketieteellinen aikakauslehti.				
31 Publication channel ID	Publication channel identifier according to the <u>Publication forum</u> <u>codes</u> (JUFO-ID).				
32 Higher education institution specific ID of publication	The higher education institution's ID number for the publication.				
33 Established conference name****	Typically, the established name of the conference repeated in the name of the proceedings parent publication, which does not change as the year, ordinal, place and time often mentioned in connection with the name (see the table on the following page).				

^{*)} Mandatory for all publications.

^{**)} Either the ISSN or the ISBN identifier is mandatory for publication types A to C.

^{***)} Mandatory for publication types A3 and B2.

^{****)} Mandatory for publication type A4 and B3.

Conference publication key reference data

Publisher	Data used for determining the publication forum	Example	Jour- nal/series name	ISSN	ISBN	Parent publication name	Publisher	JufoID	Established conference name
Scientific community or organisation behind the conference – published in the conference's proceedings series with an ISSN identifier	Established conference na- me / parent pub- lication name / ISSN / JufoID	2011 IEEE 73rd Vehicular Technology Conference: VTC2011- Spring	IEEE VTS Vehicular Technology Conference	1550- 2252	978-1- 4244- 8332-7	2011 IEEE 73rd Vehicular Technology Conference (VTC Spring)	Institute of Electrical and Electro- nics En- gineers	57589	IEEE vehicular technology conference
Scientific community or organisation behind the conference – published with the support of the community but not as a serial publication	Established conference na- me / parent pub- lication name / JufoID	2012 9th International Conference on the European Energy Market (EEM)			978-1- 4673- 0832-8	9th International Conference on the European Energy Market (EEM 2012) Florence 10-12 May 2012	Institute of Electrical and Electro- nics En- gineers	70631	International Conference on the European Energy Market
Local host organisation organising the conference which may vary each year	Established conference na- me / parent pub- lication name / JufoID	2011 9th Nordic Symposium on Building Phy- sics (NSB)			978- 952-15- 2575-9	Proceedings of the 9th Nordic Symposi- um on Building Phy- sics NSB 2011, Tam- pere, Finland, 29 May - 2 June 2011	Tampere University of Technology	71208	Nordic Sym- posium on Building Phy- sics
External party which may vary each year	Established conference na- me / parent pub- lication name / JufoID	2013 40th International colloquium on automata, languages and programming (ICALP)	Lecture Notes in Computer Science	0302- 9743	978-3- 642- 39206- 1	Automata, Languages, and Programming 40th International Colloquium, ICALP 2013, Riga, Latvia, July 8-12, 2013	Springer	58014	International colloquium on automata, lan- guages and programming