vsnu
vereniging van universiteiten
association of universities
THE NETHERLANDS

The Netherlands Code of Conduct for Scientific Practice

Principles of good scientific teaching and research

2004, revision 2012[1]
Association of Universities in the Netherlands

[1] The code of conduct for scientific practice (December 2004) has been slightly revised in May 2012. A rule has been added that every scientist is expected to maintain and promote integer scientific conduct. And an obligation is added for every scientist to publish any additional occupation to his academic position.

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NB: to enhance the readability, this Code uses 'he' to refer to the third person singular; in all instances the reader is requested to interpret this as 'he/she'.

The Netherlands Code of Conduct for Scientific Practice

Preamble

1. This *Netherlands Code of Conduct for Scientific Practice* was drawn up at the request of the Association of Universities in the Netherlands (Vereniging van Universiteiten, VSNU). The wish for a Code of Conduct stems from the generally shared conviction that (employees of) institutes that fulfil a societal role are held to a proper exercise of their duties. Rules that establish correct practice should be entrusted to paper to provide common ground and, if necessary, ground for admonishment.

2. The Code applies to scientific practice, which is understood to include scientific teaching and research at all universities in the Netherlands. More precisely, the Code is intended for the individual scientific practitioner. This Code does not aim to provide guidelines for university administration.

3. The Code presumes the administratively autonomous university that safeguards the academic liberty of the scientific practitioners engaged there. It is the university's responsibility to let this liberty fit into the frameworks of the established education and research programmes.

4. At the same time, the Code presumes that the university is a collaborative venture of diverse stakeholders in the university. Stakeholders are the staff and the students, but also the government, community entities and the corporate world. The integrity of each scientific practitioner is an essential condition for maintaining stakeholders' faith in science. Integrity is the cornerstone of good scientific practice.

5. The Code contains principles that all scientific practitioners allied with a university (teachers and researchers) should observe individually, among each other and towards society. The principles can be read as general notions of good scientific practice; they are not intended as supplementary judicial rules. The overarching principle is that every scientific practitioner is bound to the frameworks established by Dutch and international legislation. These legal frameworks are not discussed in this Code of Conduct. A second overarching principle is transparency; every scientific practitioner must (be able to) demonstrate how he puts these principles into practice.

6. The Code describes *desirable* conduct and is, in this regard, complementary to the regulations established by the universities and the National Committee for Scientific Integrity Regulations (Landelijk Orgaan Wetenschappelijke Integriteit, LOWI) on how to deal with *undesirable* conduct. Therefore, this Code does not contain sanction rules or complaints procedures.

7. The principles defined in this Code are detailed further in 'best practices'. These best practices, which provide a certain set of norms for the conduct of

teachers and researchers, reflect the national and international understanding of good scientific teaching and research. Under particular circumstances, deviation may be justified. The applicability of the provisions depends on the concrete circumstances under which the scientific practitioner operates. Moreover, the circumstances under which the university operates are also regularly subject to change. Nonetheless, every practitioner must, if required, be able to explain and motivate if – and if so, to what extent and why – he is at variance with the best practices of the university Code of Conduct (the rule "apply or explain").

8. The Code consists of this preamble, the principles and the best practices. The Code is divided into five parts:
   I. Scrupulousness
   II. Reliability
   III. Verifiability
   IV. Impartiality
   V. Independence

   The Code is followed by a commentary on the principles. Finally, a number of dilemmas have been added to encourage reflection and discussion.

9. All universities and their scientific staff will make the necessary effort to familiarise themselves with the content of this Code without delay. In addition, the universities will ensure that the Code is discussed by the academic community, particularly by incorporating the Code of Conduct into the teaching of aspiring scientists (in the graduate and post-graduate courses). This will enhance the awareness of what good scientific teaching and research entails.

10. This Code obliges researchers not only to conform but also to actively maintain and promote the rules for integer scientific conduct in his academic circle.

11. The *Netherlands Code of Conduct for Scientific Practice* was established by the General Board of the Association of Universities (Algemeen Bestuur van de Vereniging van Universiteiten) on 17 December 2004, and came into force as from 1 January 2005. The Code is revised on May 25 2012.

PRINCIPLES AND BEST PRACTICES

I. Scrupulousness

Principle

Scientific activities are performed scrupulously, unaffected by mounting pressure to achieve.

Best Practice

I.1 Scrupulousness is expressed through precision and nuance in providing scientific instruction and conducting scientific research and the publishing of results thereof.

I.2 Every scientific practitioner demonstrates respect for the people and animals involved in scientific teaching and research. Research on human subjects is only permitted upon their freely given informed consent and if there are no or just the slightest of risks. The privacy of subjects involved is sufficiently protected. If research on humans or animals poses any kind of risk, the significance of the research must justify taking that risk.

I.3 Accurate source references serve to ensure that credit is awarded where credit is deserved. This also applies to information gathered via the Internet.

I.4 Authorship is acknowledged. Rules common to the scientific discipline are observed.

I.5 Scrupulousness is not restricted to the transfer of information, but also applies to relations among scientific practitioners and with students.

I.6 Good mentorship is essential: a student and junior staff member are in a position of dependency. The responsibilities of persons involved in teaching and research are clearly defined and observed at all times.

I.7 A scientific practitioner avoids personal relationships that may give rise to reasonable doubt concerning the objectivity of his decisions, or that may result in any form of coercion or exploitation of a hierarchically subordinate person.

I.8 The assessment of study performance is based on explicit criteria that have been announced in advance. Teachers are prepared to explain every assessment, while students are sufficiently aware of the matter on which they will be assessed.

I.9 A scientific practitioner ensures that he maintains the level of expertise required to exercise his duties. He does not accept duties for which he lacks the necessary expertise. If necessary, he actively indicates the limits of his competence.

I.10 Damages as a result of errors or negligence are repaired to the best of one's ability.

I.11 A scientific practitioner is co-responsible for the quality of the educational programme in which he provides instruction, and for the scientific and societal value of the research programmes in which he participates. He acts according to his own preferences only insofar as this is reconcilable with this responsibility.

II. Reliability

Principle

Science's reputation of reliability is confirmed and enhanced through the conduct of every scientific practitioner. A scientific practitioner is reliable in the performance of his research and in the reporting, and equally in the transfer of knowledge through teaching and publication.

Best Practice

II.1 The selective omission of research results is reported and justified. The data has indeed been collected. The statistical methods employed are pertinent to the acquired data.

II.2 Speculation spurred by results of scientific research is recognizably presented as such. This does not include conclusions on the basis of the presented results. Suggestions for follow-up research may rest on speculation, in the form of an interpretation of the acquired results.

II.3 The system of peer review can only function on the assumption that intellectual property is recognized and respected.

II.4 A scientific practitioner provides a complete and honest overview of his skills whenever a decision concerning his career or duties is pending.

II.5 In transferring information in education, a selective representation of available knowledge is either avoided or justified. A clear distinction is made between transferred knowledge and personal opinion or related speculation.

III. Verifiability

Principle

Presented information is verifiable. Whenever research results are publicized, it is made clear what the data and the conclusions are based on, where they were derived from and how they can be verified.

Best Practice

III.1 Research must be replicable in order to verify its accuracy. The choice of research question, the research set-up, the choice of method and the reference to sources studied is accurately documented.

III.2 The quality of data collection, data input, data storage and data processing is guarded closely. All steps taken must be properly reported and their execution must be properly monitored (lab journals, progress reports, documentation of arrangements and decisions, etc.).

III.3 Raw research data are stored for at least five years. These data are made available to other scientific practitioners at request.

III.4 Raw research data are archived in such a way that they can be consulted at a minimum expense of time and effort.

III.5 The source of all educational material, including oral information transfer, is stated.

IV. Impartiality

Principle

In his scientific activities, the scientific practitioner heeds no other interest than the scientific interest. In this respect, he is always prepared to account for his actions.

Best Practice

IV.1 Scientific practitioners give others room to take their own intellectual stance. This applies particularly in case of a hierarchical relation, like the relation between a teacher and a student or a tutor and a PhD student.

IV.2 The choice of methods and criteria is guided solely by the goal of truth-finding, and not by external goals such as commercial success or political influence.

IV.3 A reviewer consults his conscience as to whether he can offer an impartial assessment of a manuscript, for instance when it concerns a competing research group.

IV.4 In assessing the performance of others (peer review in education, research and manuscripts), a scientific practitioner heeds arguments of scientific substance. He refrains from assessing a manuscript if he is in any way involved in the education or research concerned.

IV.5 A scientific practitioner only defends a certain scientific viewpoint if that viewpoint is based on sufficient scientific grounds. Competing viewpoints must be mentioned and explained.

IV.6 Exclusively assigning one's own study books in education is avoided, in any case at undergraduate level.

IV.7 In its annual report, every university reports on its registration of sideline activities by its staff.

IV.8 Every scientific practitioner allied with a university publishes an actual and complete list of his sideline activities on, or accessible through, the website of the university.

V. Independence

Principle

Scientific practitioners operate in a context of academic liberty and independence. Insofar as restrictions of that liberty are inevitable, these are clearly stated.

Best Practice

V.1 Whenever a scientific practitioner is commissioned to provide instruction or conduct research, he is allowed – once the parameters have been defined – to execute the assignment without interference by the commissioning party. The research question is of interest to science, aside from the commissioning party's particular concern. The method employed is scientifically valid. The commissioning party has no influence on the research results.

V.2 Commissioned assignments demonstrably contribute to scientific teaching or research.

V.3 There is no unclarity as to the identity of the commissioning party of a certain scientific activity, the relation between the commissioning party and the executing party, the existence of consultancy relations or other connections, etc.

V.4 The publication of scientific research results is guaranteed. Arrangements with an external financier always stipulate that the scientific practitioner is at liberty to publish the results within a specified, reasonable period.

V.5 External financiers of executed projects are identified by name. For research this means that their names are stated in the publication; for education this means that they are referred to in the course announcement and teaching material.

Commentary on the principles set forth in the Code

I. Scrupulousness:

Main entry: *Scrupulous*
1: *having moral integrity* ***:*** *acting in strict regard for what is considered right or proper*
2: *punctiliously exact* ***: <****working with scrupulous care>*

The actions of a scientific practitioner are scrupulous if they are performed with the dedication and the precision that the proper exercise of the profession requires. Although the scientific practitioner's concern in regard to this principle shall be primarily aimed at promoting the aims for which the profession is intended, the principle of scrupulousness also means not inflicting unnecessary or disproportional damage to the interests of third parties.

II. Reliability:

1 : *the quality or state of being reliable*
2 : *the extent to which an experiment, test, or measuring procedure yields the same results on repeated trials*

A scientific practitioner acts reliably if he does not fail the justified expectations of others regarding the exercise of his profession.
Reliability concerns both the conduct of the scientific practitioner and his written work. A very specific meaning of the term reliability is found in the statistical concept of reliability, which concerns the analysis of experimentally acquired data. Whenever relevant, publications make mention of this statistical uncertainty of research results. Within the context of this Code, the principle of reliability is understood in its broadest sense.

III. Verifiability:

capable of being verified [Verify: to establish the truth, accuracy or reality of]

Conduct is verifiable if it is possible for others to assess whether it complies with relevant standards (for instance of quality or decency).

IV. Impartiality:

Main Entry*: impartial*
not partial or biased ***:*** *treating or affecting all equally*

A scientific practitioner is impartial if he does not let personal interest, preference, affection or prejudice affect his judgment and decisions.

V. Independence:

the quality or state of being independent [Independent: not subject to control by others; not requiring or relying on something else]

When presenting insights as correct and relevant, a scientific practitioner is independent if he allows himself to be influenced by another person's judgement only to the degree that this judgement is deserving of scientific authority.

The definitions of the principles provided in cursive derive from Merriam Webster Online (www.m-w.com).

Dilemmas

The authors of this Code of Conduct are well aware that this Code does not solve all problems. One can think or actually know of 'grey areas' and dilemmas to which the Code is not directly applicable. To encourage discussion of the Code and its limitations, a number of such cases are set out below.

I. Dilemmas regarding scrupulousness

I.a A well-known scientist has a reputation for his intuitive approach. This approach tends to result in a number of 'loose ends' which he leaves to his subordinates to tie up. Without their contribution ('the dirty work'), his ideas would not progress beyond the status of interesting observations. Nevertheless, the scientific community wholly credits this group production to the well-known figure, who clearly relishes the recognition. Is this acceptable?

I.b May you relinquish restraint in formulating moral and political viewpoints in the media, if your colleagues see no need for preserving nuance and casually express viewpoints which you perceive to be wrong?

I.c A certain researcher is a true perfectionist. Because he refuses to publish research results before they comply with standards that exceed those of his colleagues, the total output of his research group threatens to be lower than seems desirable for the upcoming visitation. May his colleagues expect him to lower his standards?

II. Dilemmas regarding reliability

II.a A teacher is held in high esteem by his students because of his enthusiasm and eloquence. However, carried away by his own passion he sometimes paints pictures that transgress the limits of current knowledge, without indicating this transgression. Is this acceptable?

II.b A researcher has collected a large amount of data and has published results on a socially relevant subject. On the basis of these results, he expresses critical views on this subject. Subsequent to receiving a commission in his area of competence from a third-party stakeholder (the government), he writes a report that is markedly more positive in tone. This shift is based on a slight modification in a number of presuppositions and statistical significance levels, which he attributes to an advance in insight and improved measuring methods. The report is assigned a key role in the government's decision making, but colleague researchers are outraged. Is the researcher reproachable?

III. Dilemmas regarding verifiability

III.a A researcher has performed commissioned research on the basis of an agreement that the results remain confidential for two years; in that period the client can use the results for his own (financial) gain. After two years, the researcher publishes the results in a renowned journal. An interested yet sceptical colleague wishes to access the raw data to verify whether the claims in the article are justified, but the researcher refuses to release the data on the basis of the commission contract. This states that the raw data should remain confidential for five years, after which the researcher may destroy the data. Is this acceptable?

III.b A teacher has written a study book intended for first year students. To increase its readability he has not used source references, offering instead a list of further reading recommendations per chapter. In writing the book, he nevertheless made extensive use of the work of colleagues from all over the world. Should he have made detailed mention of this?

IV. Dilemmas regarding impartiality

IV.a A scientist is asked for a reference to support a candidate for a substantial individual subsidy. He strongly suspects that other candidates have received inflated references. Should he nevertheless offer a thoroughly honest and impartial assessment?

IV.b A teacher is involved in compiling a list of compulsory literature for a course. He proposes a book of his own, for which he receives royalties. If his book is listed, should he be required to transfer the ensuing income?

IV.c Researchers have patented a certain discovery, and now wish to capitalize on this patent. This requires additional research, which they would like to perform at their own institute. Is this acceptable or should they establish an independent entity (e.g. an Ltd.)?

V. Dilemmas regarding independence

V.a How much influence may a client have on the research problem statement? Or on the intended approach and method? (When) is he entitled to steer the course of the research? Or of the research reporting?

V.b A particular research project that has been submitted to open tender is amenable to two different research methods. Method A is expensive but very reliable. Method B is much cheaper, yet much less reliable. A researcher is considering submitting a proposal, and judges Method A to be the most appropriate. May he nevertheless choose for Method B

in his proposal, in an attempt to increase his chances of winning the commission?

V.c May you modify a research proposal in an NWO*-programme to suit the theoretical preferences of the heads of the programme, which can sometimes be deduced from the programme description?

(*Netherlands Organisation for Scientific Research)

Colophon

The text of the *Netherlands Code of Conduct for Scientific Practice* was written by a VSNU-working group consisting of the following persons:

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