**ELEMENT OF A REVIEW ARTICLE FOR AIP PUBLISHER**

**Title**

Function Helping readers to decide whether they should read the text or not. Includes terms for indexing (e.g. in data bases).

Elements The title must be informative:

• The title has to include important terms.

• It has to indicate that the text is a review article.

• It may include the message of the article, not just its coverage (Gustavii 2003).

The title must be short:

• Keep the title concise.

• A longer subtitle may be an option in case a specification is necessary.

Tense In a title with results indicated: the present tense stresses the general validity of the results and illustrates what the author is trying to achieve with the article; the past tense indicates that results are not established knowledge yet.

Citations None

Length between eight to 12 words (Davis 2005)

Question The title should only be a question if this question remains unanswered at the time of writing.

**List of authors**

Function Declare intellectual ownership of the work, provide contact information

Elements 1) Decision on authorship:

• Every person that contributed significantly to the literature search, literature exploration and/or writing process.

2) Order of authors:

• The first author has done most of the research and written major parts of the article.

• Authors between first and last author have contributed in one way or the other to the success of the project. They may be ordered alphabetically (indicating equality) or in a sequence of decreasing involvement.

• The last author usually coordinated the project and had the original idea.

**Abstract**

Function Informs about the main objectives and result of the review article (informative abstract) or indicates the text structure (descriptive abstract).

Descriptive abstract - for narrative reviews

Tense present or past

Elements Description of subjects covered without specific details.

A descriptive abstract is like a table of contents in paragraph form.

Informative abstract - for systematic and best evidence reviews

Tense objectives: present

material and methods

results: past conclusions: present

Elements 1) Objectives: One or two sentences describe the context and intention of the review.

2) Material and methods: One or a few sentences provide a general picture of the methodological approach.

3) Results: A few sentences describe main outcomes.

4) Conclusions: One or two sentences present the conclusion (which is linked to the objectives).

Citations usually none

Length usually 200 to 250 words

**Table of Contents**

Function Shows the readers the organisation of the text. Helps orientation among sections.

Note Some review journals print an outline/table of contents at the beginning of the article, others do not. In general, these are recommended for extensive narrative reviews.

**Introduction**

Function Provides information about the context, indicates the motivation for the review, defines the focus, the research question and explains the text structure.

Elements Elements of a three paragraph introduction (after Anonymous 2003).

1) Subject background. The general topic, issue, or area of concern is given to illustrate the context.

2) “Problem”. Trends, new perspectives, gaps, conflicts, or a single problem is indicated.

3) Motivation/justification. The author’s reason for reviewing the literature, the approach and the organisation of the text are described.

Tense present (use past tense for the description of your methods and your results)

Citations many

Length Between 10% and 20% of the core text (introduction, body, conclusions).

Note Make sure to have a narrow focus and an explicit research question. Indicate these two points clearly in the introduction. Give theoretical or practical justifications for the need for a review.

**Body: Material and Methods**

Function Systematic and best evidence reviews have a methods section. This section enables motivated researches to repeat the review. Narrative reviews do not have a methods section but should include some information about applied methods at the end of the introduction.

Elements The material and methods section contains for example information about: data sources (e.g. bibliographic databases), search terms and search strategies, selection criteria (inclusion/exclusion of studies), the number of studies screened and the number of studies included, statistical methods of metaanalysis.

Tense past

Citations few (e.g. to statistical analyses or software used)

Length Approx. 5% of the core text (introduction, body, conclusions).

Note Make sure that data sources are clearly identified. Precision has first priority in the material and methods section.

**Body: Main Part of the Review Article**

Section structure: A coherent structuring of the topic is necessary to develop the section structure (Bem 1995). Subheadings reflect the organisation of the topic and indicate the content of the various sections. Possible criteria for structuring the topic are:

• methodological approaches

• models or theories

• extent of support for a given thesis

• studies that agree with another versus studies that disagree

• chronological order

• geographical location

Paragraph structure

• Cover one idea, aspect or topic per paragraph.

• Avoid referring to only one study per paragraph; consider several studies per paragraph instead.

Links • Frequently link the discussed research findings to the research question stated in the introduction. These links create the a thread of coherence in your review article.

• Link the studies to one another. Compare and discuss these relationships.

Tense According to Ridley (2008) three tenses are frequently used:

• Present: reporting what another author thinks, believes, writes, reporting current knowledge or information of general validity, e.g. It is believed…

• Simple past: referring to what a specific researcher did or found, referring to a single study, e.g. They found…

• Present perfect: referring to an area of research with a number of independent researchers involved, e.g. They have found…

Citations Citations are usually indirect but in some cases pointed and relevant remarks might be cited directly.

• Non-integral references (indirect): The author’s name, or a number referring to the reference list, appears in brackets. Non-integral references emphasize the idea, result, theory etc. rather than the person behind it (Ridley 2008). Most references in biology are non-integral.

• Integral references (direct): The author’s name has a grammatical function in the text. As Ridley (2008) points out this type is appropriate to emphasize the contribution of a specific author.

Length 70 to 90% of the core text (introduction, body, conclusions).

Note Make sure to organise the different pieces of information into a line of argument. An appropriate organisation of information is allimportant for the quality of a review (Day & Gastel 2006). Throughout it is important that the idea/topic (paragraph 3 of the Introduction) drives the article and not the literature used; write an idea-driven, rather than literature-driven article!

**Conclusions**

Function Answer the research question set in the introduction.

Elements • implications of the findings

• interpretations by the authors (kept separate from factual information)

• identification of unresolved questions

Tense present: summarising and drawing conclusions present perfect: referring to an area of research or a body of literature

Citations few or none

Length 5 to 10% of the core text (introduction, body, conclusions).

Note Make sure to have a clear take home message that integrates the points discussed in the review. Make sure your conclusions are not simply a repeat of the abstract!

**Acknowledgements**

Function • Expresses gratitude to people who helped with the literature search, the structuring of the material or in the writing process (but whose contribution is too small to justify co-authorship).

• Expresses gratitude to funding organisation and specifies the funding program (often required by funding agencies).

Elements • Full names of people and their specific contributions to the project are given.

• The name of the funding agency and program as well as the grant number and the person to whom it was awarded are mentioned.

Tense present (past tense when referring to funding agencies in terminated projects)

Citations none

**References**

Function • Shows interested readers how to find the literature mentioned in the text.

• Acknowledges the work of other scientists.

• Compulsory to avoid charges of plagiarism

Elements Include every reference cited in the text. Do not include additional references. Avoid internet sources. If internet sources must be used, find the original source for the internet reference, check it has been correctly cited and cite it directly.

Length A range between 50-100 references is in most cases appropriate.

Note • For narrative reviews the inclusion of all relevant, highquality studies is the target. • Systematic and best evidence reviews need explicit criteria for the inclusion/exclusion of studies from which they got the data.

**Illustrations: Concept Maps**

Function Concept maps are used in review articles to visualize the structuring of the topic, to show the relationships between studies, concepts, models or theories.

Organisation of data: Boxes with terms or names are arranged in a two-dimensional space. Arrows are used to link boxes. Specifications of the relationship are written on the arrows.

Legend The legend describes the concept map’s content. It is specific and informative (it should be possible to understand the map without reading the full text).

Note Concept maps are very useful to display complex relationships.

Boxes Often provided to explain terms/concepts for those who are interested in certain issues more in depth.

Glossary Often provided to explain terms particular to a subject area so that as broad an audience as possible may be reached.