# Paper for the Proceedings of Nordic Research Symposium on Science Education 2021 (Provide a clear and concise title, 10–12 words max)

**Author A**Department of Teacher Education, University of Iceland, Iceland
correpondence.author@email.is

**Author B**Department of Teacher Education, University of Iceland, Iceland

**Author C**Department of Physics, University of Iceland, Iceland

**Abstract** This is a short guideline for preparing a manuscript for the proceedings of the Nordic Research Symposium on Science Education 2021. It is based on the APA style guidelines. Many details have been left out for the sake of brevity. For more details, refer to the current edition of the *Publication Manual of the APA*. The abstract is a single paragraph that uses 150-200 words to describe the topic of the paper, your method, your results and the conclusion you came to in your “Discussion” section. It should be viewed as a separate summary of your paper and not as a component of it (such as a part of the introduction). The abstract should include one to two sentences about the following four themes: 1) the general topic of your paper and the topic's importance; 2) method, primary procedure and techniques; 3) results or summary of relationships; 4) discussion or summary of primary conclusions and possible implications.

**Keywords** Maximum of 6 words, separated with commas

## 1. Introduction

Manuscripts for the NFSUN proceedings should be maximum 3000 words (including references, tables and figures, but excluding abstract). The manuscripts should be written in English or in any Scandinavian language. All articles written in Scandinavian languages should also have an English title (in addition to the Scandinavian) and the abstract must be in English.

Manuscripts must be submitted as Word files.

Deadline: August 15th, 2021.

This manuscript is submitted by email to NFSUN2021@via.dk

Headings are helpful as a guide for readers. Three levels of headings are usually sufficient. Please, use heading styles of your word processing software. In your paper, use a first-level heading only for the main title. Use second-level headings for the title, which appears at the beginning of your introduction, and for the words Method, Results, Discussion and References, which appear at the beginning of the appropriate sections. Use a third-level heading for each subsection of your paper (e.g., subsections of your introduction). Number headline levels from second level as 1., 1.1., 1.2., 2.…

Examples:

# Document Title (Arial 18 pts, Heading 1 style)

## 1. Second-Level Heading (Arial 14 pts, Heading 2 style)

### 1.1. Third-Level Heading (Arial 11 pts, Heading 3 style)

#### 1.1.1. Fourth-Level Heading (Times New Roman 12 pts, Heading 4 style)

Charts can be included in the document. Place them where you want them to be printed (not in the end of manuscript and not as separate files).

## 1.1 How to write the introduction

The introduction should present the topic of the paper, review relevant theories and research and brief provide a review of the research design that will follow, including research questions or hypotheses. It is not perhaps useful to use the title "Introduction" at the beginning, use your “own” title as a second level heading to start this section. Typically an introduction has three primary components. The headings and content can be adjusted to cover development work, but also here theoretical background and methods need to be presented.

The first component is the problem statement: describe the topic of interest and state briefly why investigating this topic is important (i.e., its significance for theory or practice).

The second component is the literature review: review some relevant theories (can be found in textbooks, handbooks and international journals) and/or earlier research findings that relate to your topic. Describe techniques that have resulted from the theoretical background provided. When you present research, provide a brief description of its intent, the method employed, results and conclusion. Make certain you cite properly (see below).

The third component of the introduction is a statement of intentions. Briefly describe your research study or development, relating it to your literature review. State your research questions or hypotheses.

## 2. Method

The Method section should describe the procedure in detail sufficient to allow those who wish to replicate the method to do so. This section should include a description of the participants, the context of the study, and the research methods used. Report the number of participants, age, gender and important demographics that relate to the study.

When the contribution is entirely theoretical, the method section should present analytical methods, perspectives employed etc, but the section may be given a different headline.

## 3. Results

The “Results” section of your paper present (empirical) results, as far as possible without interpretation. Interpretation of your results and opinions on how they relate to your research questions or hypotheses should be placed in the discussion section.

Figures may be pictures, charts or schemes but are most commonly graphs of data. If the figure is a graph, each axis should be properly labelled. Make sure that the scales of the x- and y-axes represent the highest and lowest possible scores.

It is recommended that digitalised photographs have 256 level greyscale.

Tables should be made as described in the examples below. Use a minimum of Times New Roman 12 pts in tables.

Each figure and table should be referred to using a number. When referring to a figure or table within the text, do not say “The figure below” etc, but refer by saying f. ex. “Figure 1 presents...” or “(see Figure 1)”.

Figure and table captions should be short summaries of what is presented in each figure or table. Use the word "Figure" or “Table” and its associated number followed by a full stop (period). On the same line add a short description of the figure or table.

Examples of tables and figures:

**Table 1.** Evaluation of the learning materials teachers used to teach the basics of electronics and electricity.

|  |  |  |  |
| --- | --- | --- | --- |
| Evaluation of learning materials | Study group (*n* = 81) |  | Control group(*n* = 53) |
|  | frequency | relative frequency |  | frequency | relative frequency |
| Poor | 14 | 17.3% |  | 8 | 15.1% |
| reasonably good | 17 | 21.0% |  | 11 | 20.8% |
| Good | 41 | 50.6% |  | 13 | 24.5% |
| no answer | 9 | 11.1% |  | 21 | 39.6% |

χ2 = 17.1\*\*\*



**Figure 1.** Example of a diagnostic network representation
supplied by an individual student.

Avoid using appendixes. If you need appendixes, the content must be included in the 3000 word limit.

Please do not use any footnotes or endnotes.

## 4. Discussion and conclusions

The Discussion section is where you provide your interpretation of the results. Was the hypothesis (or hypotheses) supported or not? In what ways? The discussion should relate findings to theoretical perspectives presented in the introductory part of the paper.

The conclusion should clearly formulate answer(s) to the research question(s). Quite often a paper finishes with implications and a proposal of future work.

Overall, the architecture of a research paper can be viewed as a vase. The introduction starts broad and provides a stable foundation for the information to come; the paper then narrows to its main points and finally broadens again, fanning out into new horizons. It is therefore important to state potential future research questions and design at the end of the paper.

## 5. Acknowledgement

A brief acknowledgement section may be included before the reference section.

## 6. References

Make sure that all the citations in your paper are correctly referenced in the Reference section. The Reference section is placed at the end of the manuscript and is headed by the term “References”. Entries should be listed in alphabetical order. Second and all following lines should be indented.

*Examples* of the most common types of reference book, articles, and chapters from an edited book can be found below. Be sure to pay attention to punctuation, capitalization, special formatting such as italics and other minor details (for example, only supply the initials of each author & not his/her first or middle name). Look carefully at the contents and the example to be sure you understand how to format each reference.

***Books****General Contents*

Author's name(s). (Publication date). *Name of Book* (Edition number if appropriate). Location of publishing Company: Name of publisher.

*Example*

Goleman, D. (1987). *The meditative mind: The varieties of meditative experience*. New York: St. Martins.

***Journal Articles****General Contents*

Author's name(s) (Publication date). Title of article. Name of journal, Volume number, page numbers.

*Examples*

Lukoff, D., Lu, F., Turner, R., & Gackenbach, J. (1995). Transpersonal psychology research review: Researching religious and spiritual problems on the Internet. *Journal of Transpersonal Psychology*, *27*(3), 153–170.

Maslow, A. (1962). Lessons from the peak experiences. *Journal of Humanistic Psychology*, *2*(3), 9-18.

***Book Chapter****General Contents*

Author's name(s) (Publication date). Title of chapter. In editor's name(s) (Eds.), *Name of book* (page numbers). Location of publishing Company: Name of publisher.

*Example*

Wilber, K. (1980). Eye to eye: Science and transpersonal psychology. In R. N. Walsh & F. Vaughan (Eds.), *Beyond ego* (pp. 62–100). Los Angeles: J. P. Tarcher.