Title of your Technical Report

Prepared by:

Word Count:

Date:

Rationale – Demonstrate engineering/applied science competency at the technologist level (see Technical Report Subject Matter).

3,000 words (Introduction though Recommendations)

Double spaced

Arial 12 font

Acknowledgements

(Example) I would like to thank Dr. Jane Smith for the mentoring she provided during this project. I would also like to acknowledge Bob Green, P.Tech.(Eng.) for allowing access to the laboratory and use of the test equipment.

Rationale – It is appropriate to acknowledge and thank individuals who aided, contributed, or acted as a technical advisor to your report.

Executive Summary

The executive summary includes (very briefly):

Why the investigation was initiated

How the investigation was performed

An overview of the results

The conclusions based on the results

The recommendation (actions) based on the conclusion

Rationale – A brief description of the report content.

As the name suggests, the executive summary is a summary at the beginning of the report provided as a courtesy to the reader (possibly a busy executive) who may not have time to read the entire report. It should be written so a reader with some knowledge of the subject matter can determine if they need to read the entire report to get more detail.

The executive summary is brief (a few paragraphs to a page or two) and should be written last. Once the report has been written distil down the important aspects of the report into the executive summary.

Table of Contents

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List of Exhibits

Page

Rationale – A technical report involves an investigation of a technical matter and must be supported by tables, charts, drawings, graphs, pictures, etc. These are all considered ‘Exhibits’ and must be listed at the beginning of the report.

Introduction

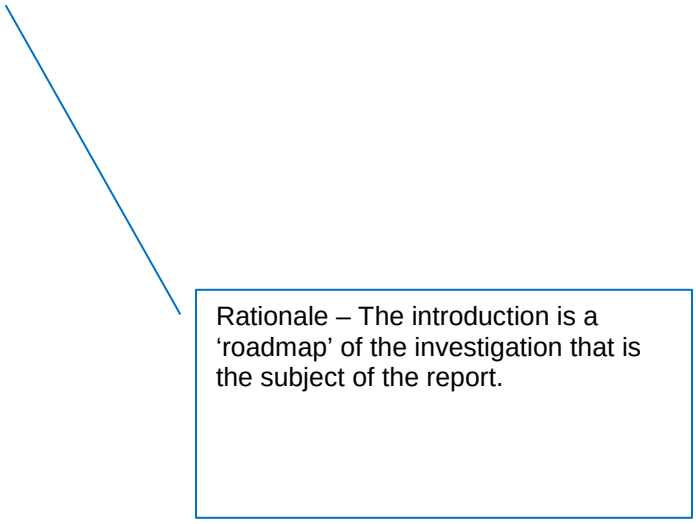
The introduction includes:

The purpose for writing the report (i.e. to select, analyse, design, evaluate, etc.)

The scope

General sources of information

Who authorized the report (if appropriate)



Discussion

The discussion is the body of the report and will include the details of the investigation. The discussion will include the procedure used and data collected during the evaluation (voluminous amounts of data should be included in the appendix and simply referred to in the discussion). The discussion should be divided into subsections as needed to provide a clear presentation of the subject matter.

The technical report must be the original work of the author of the report, but every report will require outside sources of information to substantiate and validate the report author's results. It is not only required to research the subject matter of the report and include that research in the report, but it is also required to properly document the source of the research material. An example of a proper citation is below.

> Test 6 and 7 of the investigation were performed outside in February when the temperature reached -40^0 C. The results obtained were consistent with results obtained above this temperature, but it should be noted that the instrument manufacturer indicates the "lowest reliable operating temperature is -30^0 C" [1, p185]
>
> Or

How To

Do a proper citation

The technique used for drainage of the subdivision has been described as “a revolutionary approach to civil engineering” [2, p352].

Rationale – The citation indicates where to find the source of the outside information. The references are numbers sequentially as they appear in the body of the report **[1**, p185**]** Also indicated in the citation is the page number where the quote can be found [1, p 185]. The citations are listed numerically in the reference section where additional information is provided (see the reference section).

A proper technical report is supported by data. This data is often in the form of tables, charts, drawings, graphs, pictures, etc. which are considered ‘Exhibits’. Exhibits are numbered sequentially from the beginning of the report using the format below.

Exhibit 1, Title

How To

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Exhibit 2, Title

Rationale – Data that results from the investigation and presented as an exhibit must be numbered and included in the list of exhibits. Exhibits are numbered sequentially and labelled with the exhibit number and the title of the exhibit at the upper left of the exhibit using the general format Exhibit #, Title.

Information that is too voluminous to include in the body of the report should be included in the appendix. The general format is.

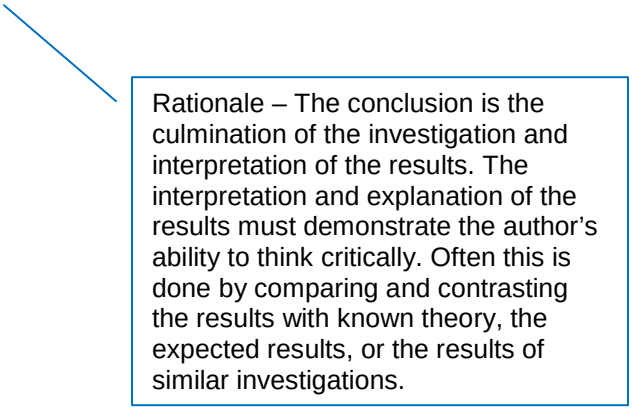
> After extensive testing, using trial and error, the results were bracketed between 30% and 40% (Appendix 1).

How To

Refer to the Appendix

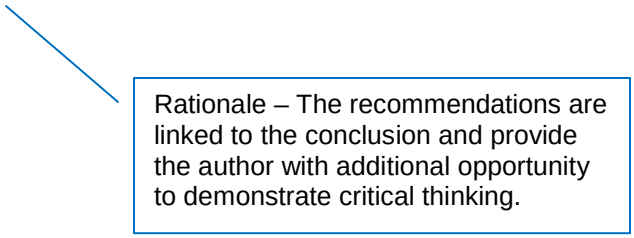
Conclusion

The conclusion contains the author's interpretation of the results (i.e. the selection, analysis, design, evaluation, etc.). The conclusion clearly articulates how the results achieved in the discussion section relate to the purpose for writing the report that was indicated in the introduction. The conclusion is a demonstration of critical thinking related to the author's investigation. There are often a number of conclusions that can range from the interpretation of the results to an interpretation of the underlying theory, or possibly an interpretation of the validity of the test procedures used.



Recommendations

The recommendations are suggestions for change based on the conclusion(s). In the introduction a purpose of the report was indicated. The recommendation section details potential resolution to the underlying issues that were the purpose for writing the report. There must be a recommendation for each conclusion.



References

References are listed numerically in the order they appear in the report. The reference indicates the original author, the name of the printed material, the source of the material (including city when applicable), the date and the page number (in that order). Below are examples of a proper reference.

(Example)

1 Terman, P.P.: Electronic Measurement, McGraw-Hill Book Company, New York, 1952, p185

2 Smith, P.H.: An Improved Transmission Line Calculator, Electronics, January, 1944, p352

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Appendix

The appendix includes information too voluminous for the body of the report. The appendix item is listed sequentially as they appear in the report.

Appendix 1

(Example) the entire Microsoft Excel spreadsheet of lab data.....

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DECLARATION OF AUTHORSHIP

The following declaration is to be signed by the applicant, and countersigned by a sponsor who should be an immediate advisor or manager of the applicant. Self-employed applicants will require the signature of a recognized professional. This declaration of authorship must be submitted with your technical report.

I,_____, hereby affirm that the enclosed manuscript

entitled_____, is my own composition. I declare that I have personal knowledge of the facts and conclusions set out therein, except where I have stated otherwise, and have in no degree committed plagiarism. On this basis I agree to have the report judged.

_____
Signature of Applicant

Sponsor's Declaration

I have taken all fair precautions necessary to enable me to assure the Registration Board of The Association of Science and Engineering Technology Professionals of Alberta that the above statement is true.

_____
Signature of Sponsor

_____
Name (Please Print)

_____
Position

Rationale – The declaration of authorship is an independent verification of the legitimacy of the authorship.

The above declaration does not preclude the applicant from referring to books or office files or even obtaining verbal information to supplement points made in the paper. The applicant is expected, however, to give proper recognition for the type of information through the use of proper references.

This declaration when signed should be bound in the report and may follow the letter of transmittal

Marking Format

The general marking format used to evaluate a technical report/thesis is:

Report/Thesis Format	/10
Introduction Content	/5
Relevance	/10
Presentation of Technical/Experimental Results	/10
Technical Content	/35
Conclusion/Recommendations – **Critical Thinking**	/25
Proper use of References	/5

Rationale – The Technical Content and Conclusion / Recommendation of the report is 60% of the total mark.

Up to 20 points deducted for poor use of grammar	( )
Passing Mark for Technical Report/thesis	65%

Plagiarism (not acknowledging the original author of information) will result in a mark of 0% and the applicant will be required to wait a period of time before submitting another report.

Technical Report Subject Matter

Completing a satisfactory technical report/thesis is a requirement for certification as a technologist. This general format provides guidelines for preparing and submitting a technical report/thesis.

The technical report/thesis must be no fewer than 3,000 words (excluding abstract, table of contents, references, bibliography, and appendix). The subject must relate directly to the discipline in which the applicant seeks certification. An outline of the technical report/thesis should be approved by the ASET Registrar prior to the applicant writing of the report to ensure the subject matter is appropriate.

Applicants should pay particular attention to the six areas indicated below.

1. Subject of the Report

The report must be related to the discipline in which the applicant is seeking certification. The report must demonstrate engineering/applied science competence at the technologist level, (including elements of design and application of theory) with extensive technical and mathematical depth. This will illustrate that the author has a clear understanding and mastery of the subject.

The technical report must attempt to solve an engineering/applied science issue and demonstrate:

- Critical analysis of a technical issue (i.e. a technical thought pattern leading from the identification of an issue to the creation of a hypothesis, and ultimately to a conclusion).
- Analysis of a technical issue - evaluation of alternate resolutions – how the recommendations were derived.
- A conclusion that supports the recommendations.
- Acknowledgement of sources (bibliography, references, foot notes). Acknowledgement of sources not only indicates intellectual courtesy and honesty, it also enables the examiner to confirm references material.

Technical Reports usually fall into one of three general categories.

Research Report: A research report requires an extensive search of all sources of material related to the subject (libraries, manufacturing specification sheets, literature and brochures, etc.). The report may entail considerable correspondence with government agencies as well as industry sources. An example of a research report would be a study of recent and on-going investigations into Harmonics and their deleterious effects.

Analytical (Laboratory) Investigative Report: An analytical investigative report would involve analysis of a process, system, or equipment. An example of an analytical laboratory investigative report may be a particular application for a programmable controller, or studying various aspects of a software package for analyzing distribution systems.

The Construction Project: A construction project report may require the applicant to complete performance tests, write specifications, or explore a range of applications. The emphasis of the report must be on the application of technology rather than the construction phase itself.

2. Academics/Competency and Level of Practice

The technical report/thesis is expected to demonstrate not only the ability to write a technical report but the capacity of the applicant to apply the knowledge they have acquired during earlier academic studies and/or work experience. This bears a direct relationship to the degree of technical appreciation, mathematical depth, and report writing expertise expected in the report/thesis.

The technical report/thesis must demonstrate academics/competency and level of practice at the technologist level as detailed in the technologist profile, below.

Technologist Profile

A professional, who through academic training and experience in the application of engineering or scientific principles, is capable of assuming responsibility and exercising independent judgment in the practice of engineering or applied science technology.

Carries out a wide range of complex work, either independently or under general direction.

Typical activities include design, production, marketing, testing, quality control, estimating, surveying, inspection, diagnostic evaluation, supervision, management, technical sales and teaching. Such activities may be carried out in association with other professionals.

Uses an applied approach based on a comprehensive understanding of a specific technology.

Evaluates assignments, determines procedures and implements solutions, schedules work to meet objectives, participates in short- and long-range planning, and may become involved in developing and promoting conceptual change.

May assume managerial or administrative responsibility for a wide range of technical endeavours.

May supervise and co-ordinate a diverse working group and train less experienced technical and professional staff.