



Organização: Pró-Reitoria de Pesquisa - USP



Workshop de Capacitação em Escrita Científica

Módulo 3

Prof. Dr. Valtencir Zucolotto
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USP, 2011

Módulo 1: O Gênero Literário

Seções de Um Artigo Científico

Módulo 2: Estrutura 1: *Abstract*

Módulo 3: Estrutura 2: *Introduction*

Módulo 4: Estrutura 3: *Results and Discussion, Conclusion*

Módulo 5: Estilo

Linguagem 1: Especificidade, Complexidade e Ambiguidade

Módulo 6: Linguagem 2: Redundâncias, Ação no Verbo, Fluidez de Texto, Ritmo de Escrita

Módulo 7: Linguagem 3: *Plain English*, Escrever em Inglês, Preposições

Módulo 8: Linguagem 4: *Topic Sentences, Cover Letters, Final Remarks*

Módulo 3

Estrutura 2: Introduction

Introduction

1. Contextualization

Present the research field and show the importance of the main area,

Supporting Material

M3P1 Lang

1. Contextualization

Present the research field and show the importance of the main area,

Supporting Material

M3P8 Anal Chem

1. Contextualization

Present the research field and show the importance of the main area,

Supporting Material

M3P10 Int J Inf

2. State the Gap

Open Questions, Restrictions and Limitations

Supporting Material

M3P2 IEEE Sig Proc

2. State the Gap

Open Questions, Restrictions and Limitations

Supporting Material

M3P9 JACS



Introduction



2. State the Gap

Open Questions, Restrictions and Limitations

Supporting Material

M3P8 Anal Chem



2. State the Gap

Open Questions, Restrictions and Limitations

Supporting Material

M3P11 SIAM J Comput



Introduction



3. Show the State-of-the-Art Recent research and findings

Supporting Material

M3P8 Anal Chem

3. Show the State-of-the-Art Recent research and findings

Supporting Material

M3P3 Int J Plast

4. State the importance of your study Evidencing Implications and/or Applications

Supporting Material

M3P4 Nano Lett

4. State the importance of your study
Evidencing Implications and/or Applications

Supporting Material

M3P12 IEEE T.E.C.

5. State the purpose of the paper

Supporting Material

M3P5 Lang

M3P6 Lang

5. State the purpose of the paper

Supporting Material

M3P9 JACS

5. State the purpose of the paper

Supporting Material

M3P13 Human Comp Int

Usually for Computer Science-related areas

Introduction may be followed by additional Sections on:

- Problem Formulation
- Related Work
- Case Studies
- Relevant, Specific Topics

Structure

Information in the text flows from General to Specific, arriving at purpose.

General

Contextualization

Your Field

Purpose

Specific

Your work

“Afunilando” o fluxo de idéias....

Supporting Material

M3P7 Nano Lett



The citation process:

Authors cite to prove where the ideas came from

Authors **DO NOT** cite to show where the text came from!!!

Emphasis on the study:

“Previous studies [Ref] have described the influence of grain size on the ultimate properties of the polymer....”

“A detailed description of the method employed can be found in ref [ref]....”

Emphasis on the Author:

“A similar strategy has been used by Franco et al [R]....
(first author of the paper)”

**Do not discuss the Methodologies and *techniques*
Materials and Methods;**

**Unless in the case you are using a *novel*
technique or methodology:**

Style

- Contextualization and Gap: Past, present-perfect (continuous) generally used.
- Purpose: Present or past tense are preferable.
- Use the active voice as much as possible.
- Third Person with some use of first person.



John M. Swales, Genre Analysis: English in Academics and Research Settings, Cambridge University Press, 1990.

Patwari N. et al, IEEE Signal Processing Magazine, 2005, p 54

Rubner et al., *Langmuir* **2004**, 20, 1362.

Lowman et al., *Langmuir* 2004, 20, 9791-9795

Borges et al., International Journal of Information Technology & Decision Making, 9, 2010, 547.

Urselmann, et al., IEEE Transactions on Evolutionary Computation, 15, 2011, 659

Olek et al., *Nano Lett.*, Vol. 4, 1889, (2004)

Yoon et al., International Journal of Plasticity 27 (2011) 1165

Podsiadlo et al., Nano Letters, 2008 , 8, 1762

Butcher et al., Human–Computer Interaction, 26, 2011,123.

King et al., SIAM J. Comput. 40, 1316, 2011

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Módulo 4

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Módulo 4

Estrutura 3:

Results and Discussion, Conclusion

Results and Discussion



Results and Discussion

The most important section of a paper

The section where you prove your initial question, hypothesis, idea, etc.

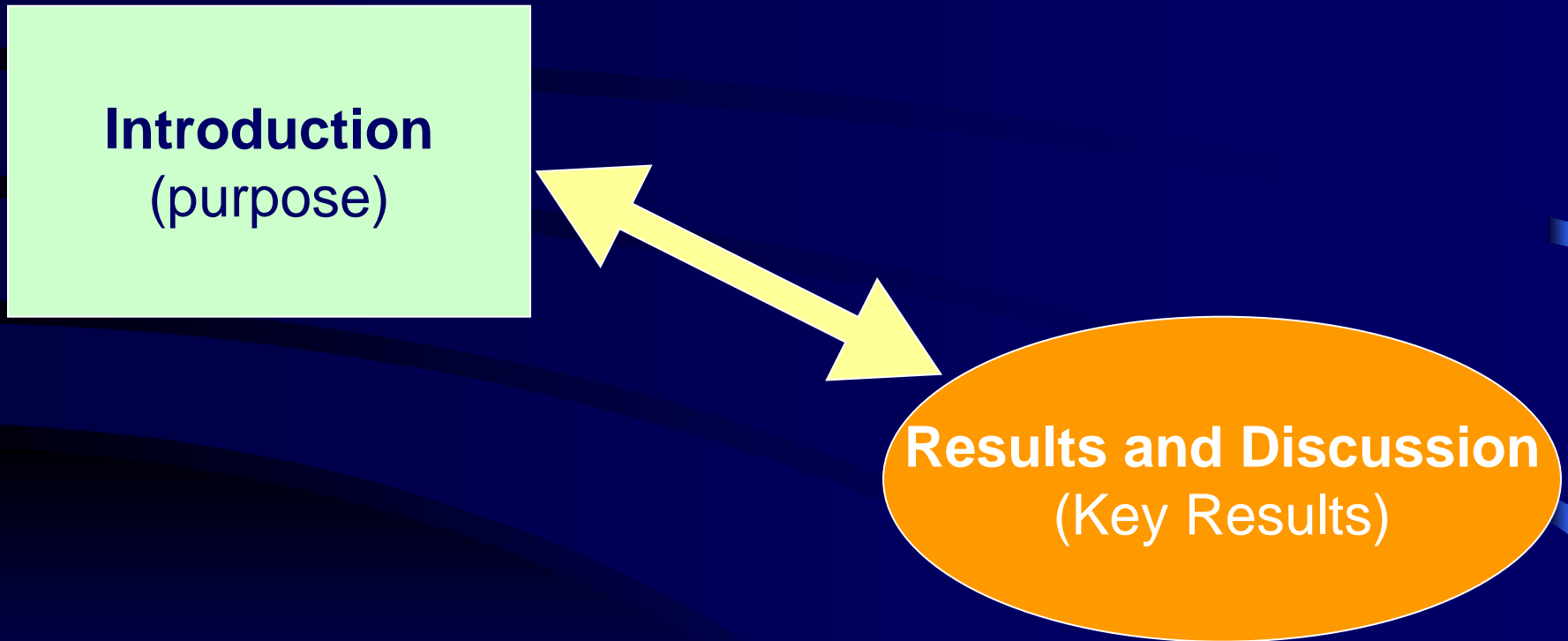
Illustrative Materials (figures, tables, graphs, images), Outcome of Calculations, and **TEXT**.

Importance of figure Quality, Data Analyses and Statistics

The way you write your achievements makes the whole difference



Remember !!!!!





Model/Structure for Results and Discussion

??????????

A Tentative Model:

- Background / Importance

- Describe the outcomes of your research
(figure, tables, graph, image, calculations, algorithm tests, etc)

* In computer Science-related areas this section is usually divided in a number of specific subtopics .

- Interpretation

- Comparison

- Implications

Example 1

Supporting Material

M4P2 Nano Lett

Example 2

Supporting Material

M4P3 Nature

Example 3

Supporting Material

M4P6 JACS

Style

- Past tense;
 - Third Person, preferably;
 - Use active voice whenever possible.
- Subheadings may improve organization and comprehension

Numbering:

Figures and Tables are numbered independently.

Abbreviation:

“Figure” **can** be abbreviated as “Fig.” in the text, but not in the legend.

“Table” is not abbreviated.

Always consult the Journal’s Guide for Authors

The right place for captions

Tables: above, left justified.

Figures: below, left justified

Always consult the Journal's Guide for Authors

Reach a balance between description of data in the text and in the figure/table legend

Any reader must **understand** a Figure/Table without reading the results section.

Tips

Do you really need a figure?

“ The thickness of the film was estimated at 10 nm per bilayer, using AFM....”

“Seed production was higher for plants in the full-sun treatment (52.3 +/-6.8 seeds) than for those receiving filtered light (14.7+/- 3.2 seeds)....”

Note: Always use a space between the value and the unit:

“The estimated length was 10 m”, or, “the optimum time was 100 min.”

Conclusions

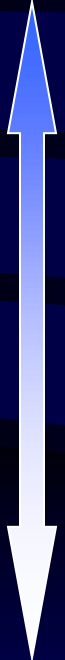
Conclusions

Function: To state the importance of the paper to the development of the field.

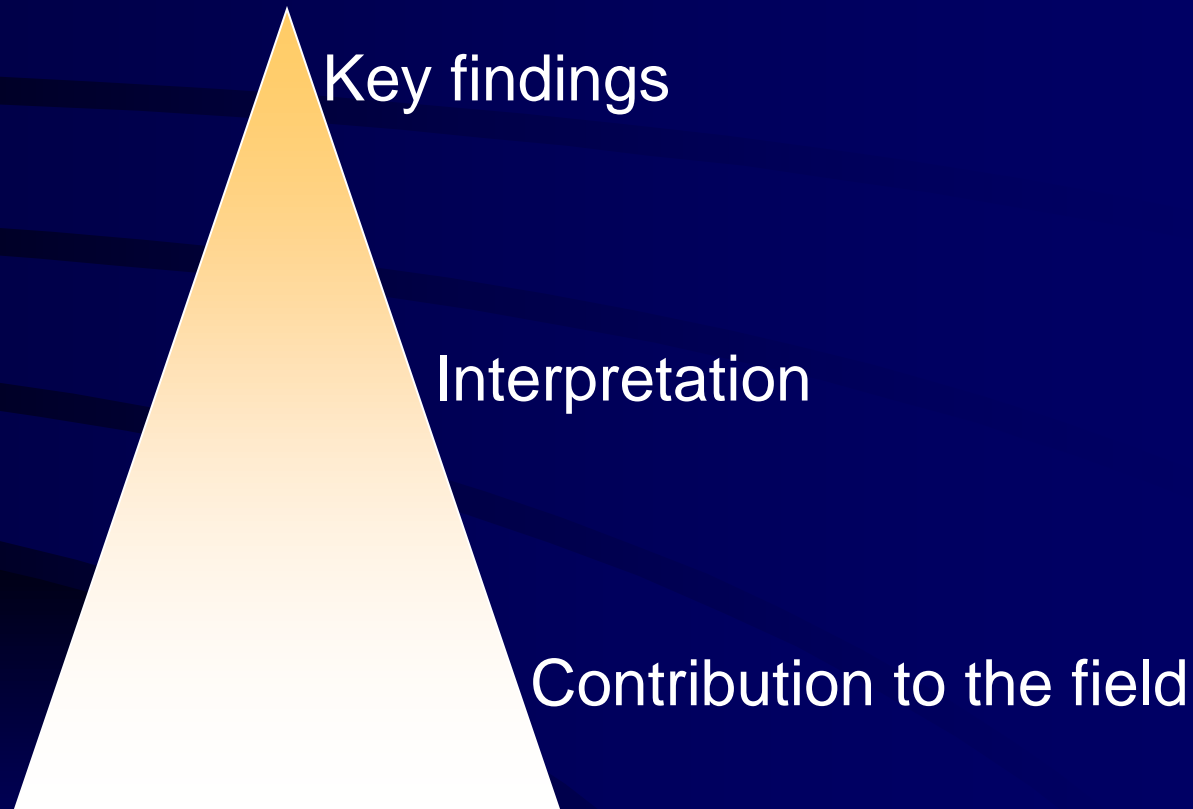
Ideas flowing from **Specific** to **General**.

Pyramidal Structure

Specific



General



A Suggested Model

1. State main findings

2. Interpretation of the main findings



Conclusions

3. Contributions/Progress to the field

4. Further Work (optional)

Style

- Past and Present tense;
- Third Person, preferably;



Conclusions



Categorize the sentences in the following conclusions sections:

Example 1

Supporting Material

M4P1 Nano Lett

Example 2

Supporting Material

M4P4 Mechatronics



Conclusions

Example 3

Supporting Material

M4P5 Nature Nanotech



Conclusions

Example 4

Supporting Material

M4P7 ACS Nano



Conclusions

Example 5

Supporting Material

M4P8 Human Comp Int



Conclusions

Example 6

Supporting Material

M4P9 Int J Inf

Example 7

Supporting Material

M4P10 IEEE T.E.C.



John M. Swales, *Genre Analysis: English in Academics and Research Settings*, Cambridge University Press, 1990.

Science Research Writing for Non-Native Speakers of English, Hilary Glasman-Deal, Imperial College Press, 2009

Watson, JD, Crick, FHC, *Nature*, 171, 737, 1953.

Yu et al., *Nano Lett.* 2011, 11, 4438

Brawand et al., *Nature*, 2011, 478, 343

W. Li et al. / *Mechatronics* 21 (2011) 1183

Cho et al., *Nature Nanotechnology*, 6, 2011, 675

Urselmann, et al., *IEEE Transactions on Evolutionary Computation*, 15, 2011, 659

Borges et al., *International Journal of Information Technology & Decision Making*, 9, 2010, 547.

Butcher et al., *Human–Computer Interaction*, 26, 2011,123.

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