

Scientific Writing

Writing High Impact Papers

Module 4

Prof. Dr. Valtencir Zucolotto

Prof. Dr. Valtencir Zucolotto

Journal of Biomedical Nanotechnology - Associate Editor
Nanomedicine and Nanotoxicology Group - Coordinator
Physics Institute of São Paulo, University of São Paulo

Module 1: Literary Genre

Module 2: Structure 1: *Abstract*

Module 3: Structure 2: *Introduction*

Module 4: Structure 3: *Results and Discussion, Conclusion*

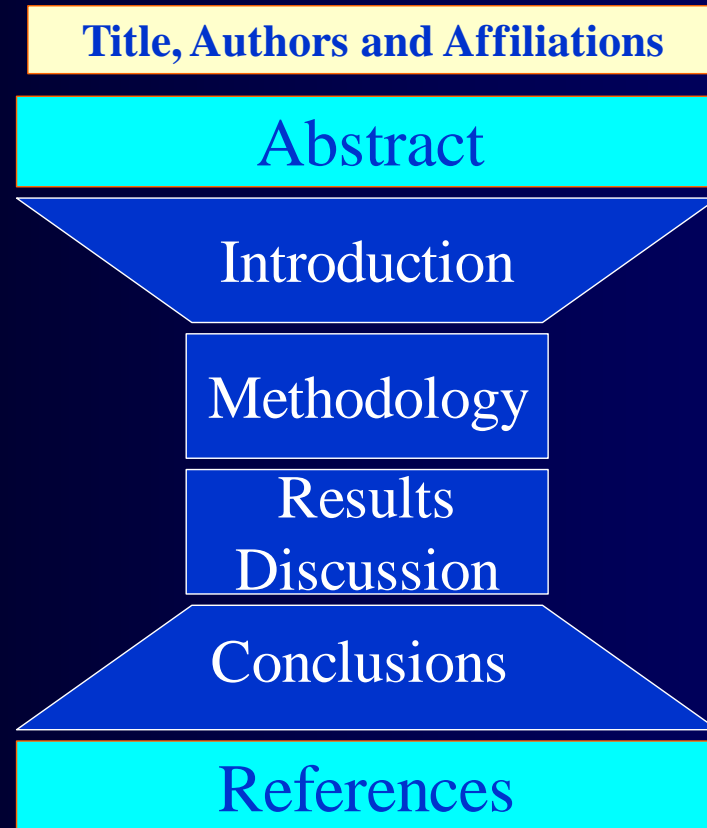
Module 5: Style, Language 1: Complexity Problems 1

Module 6: Language 2: Complexity Problems 2, Rhythm

Module 7: Language 3: *Plain English and Topic Sentences*

Module 8: Manuscript Submission, The Editorial Process

Module 4



Adapted from: Hill et al., Teaching ESL students to read and write experimental papers, TESOL Quarterly, 16: 333, 1982:

Results and Discussion

Results – Discussion – Conclusion

Results – Discussion

Results and Discussion – Conclusion

Results – Discussion and Conclusion

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

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

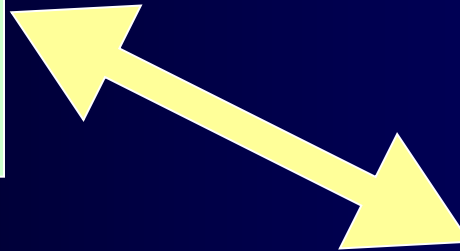
An Interesting Example...

“It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material”

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

Remember !!!!!

Introduction
(purpose)



Results and Discussion
(Key Results)

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

Example 1

- Cycling performance is another key factor in determining the supercapacitor electrodes for many practical applications. Excellent cycling stability is crucial for real supercapacitor operations. The cycling tests for all three different electrode systems were carried out using the same current density of 1 mA/cm². Figure 4a compares the cycling stability of three systems and shows that ~93%, ~96%, and ~95% capacitance was retained over 3000 cycles of charging and discharging for GM-, GMC-, and GMP-based electrodes, respectively. All three electrode systems demonstrate much better cycling performance compared to those reported in previous work (typically 75-85% retention over 1000 cycles),^{13,21,22} thanks to hierarchical structures of graphene/MnO₂ textiles.

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

| Major section | Individual section |
|---------------------|--|
| Introduction | Abstract Introduction Lit review/hypothesis Context |
| Methodology | Theory Method |
| The back end | Results Analysis and/or discussion Conclusion |
| Supporting evidence | Notes Appendix Acknowledgements |
| References | References |

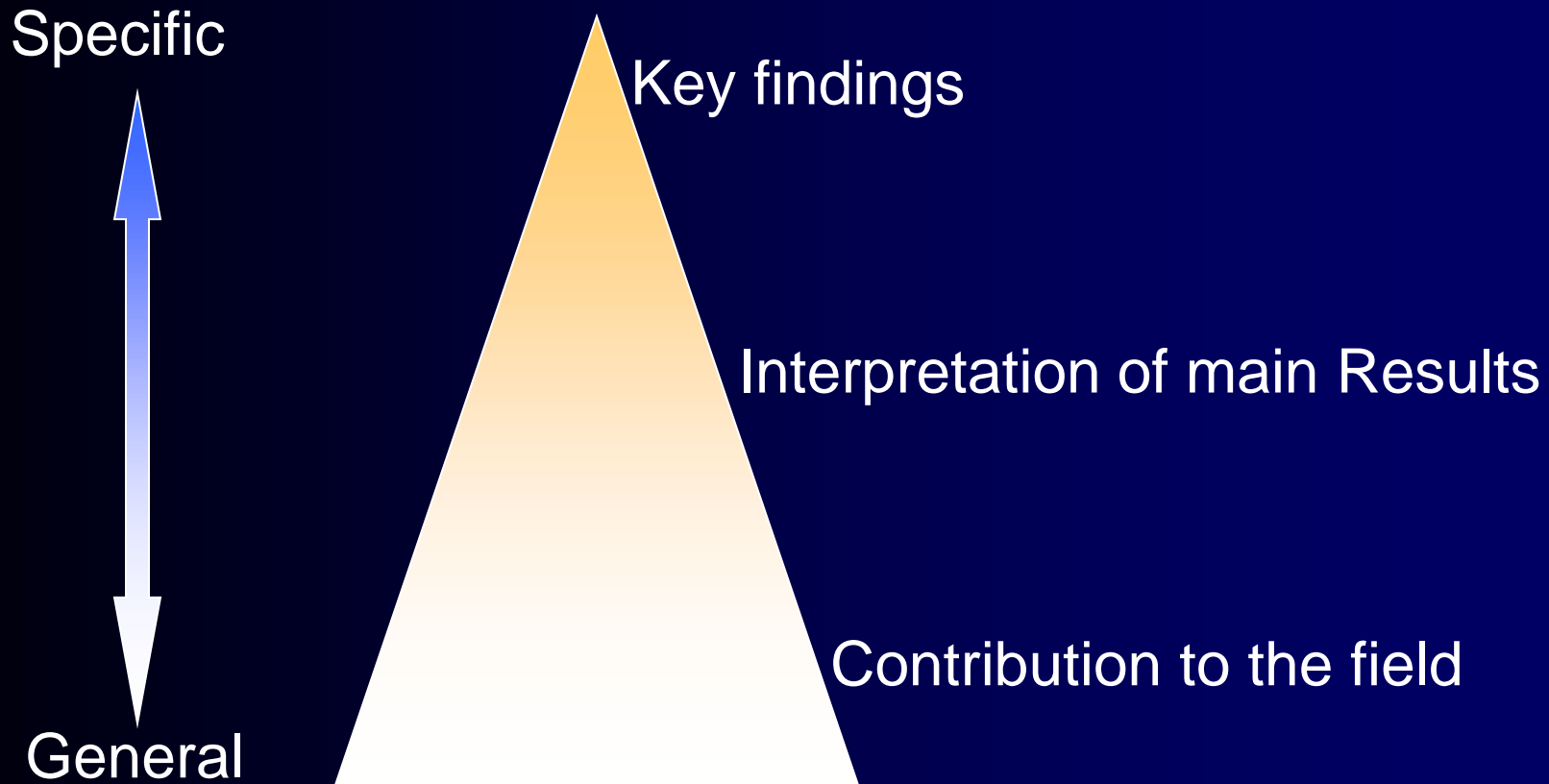
Accounting, Auditing & Accountability Journal, 26, 2013, 876-910

Conclusion

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

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

Pyramidal Structure



A Suggested Model

1. State main findings

Emphasize your main results.

2. Interpretation of the main findings

Take a few sentences to re-state the interpretation of the key results.

3. Contributions/Progress to the field

Describe the implications of your achievements to the field.

In conclusion, the study introduces a rhythm memory span task, which measures individual memory capacity for musical rhythms. Our data show that performance on the rhythm span task is superior in the musicians group and positively correlated to pitch memory span performance as well as musical engagement and training. Musicians performed significantly better on the rhythm memory span task and the pitch span task, and it would be interesting for future research to investigate if superior span performance is limited to musical materials, the auditory domain or expands to superior memory abilities in general.

Journal of New Music Research, 2015, Vol. 44, No. 1, 3–10,

The question 'is biochar a useful soil amendment' has been partially addressed in this study. The response to the question is that it depends on the characteristics of the biochar. It is demonstrated that biochars can be vastly different in their sorption and desorption properties. In one case, a fast pyrolysis biochar, added to a degraded soil, reduced the P-fixing capacity of a degraded tropical soil. In another case, slow pyrolysis biochars had differential effects on P sorption, suggesting that they could be useful to manage soil P differently in the same soil, or be used preferentially in different soils to acquire desired P supply benefits.

Finding Suitable Journals to Your paper

www.edanzediting.com/journalselector

- 1. Identify the five Top Journals in your research area***
- 2. Select at least 10 abstracts and Introduction sections from good papers from these journals***
- 3. Categorize all sentences in these abstracts based upon the proposed models***



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.

Prof. Zucolotto as a Scientific Editor

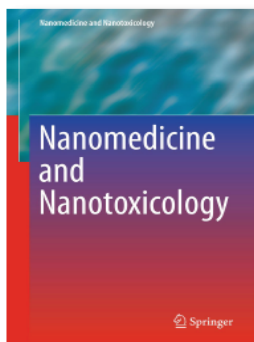
Journal of Biomedical Nanotechnology

Prof. Valtencir Zucolotto, Associate Editor

2013 Impact Factor: 7.578



springer.com



Nanomedicine and Nanotoxicology

Series Ed.: Zucolotto, Valtencir

Nanomedicine and Nanotoxicology" is a book Series dedicated to the application of nanotechnology to achieve breakthroughs in healthcare as well as its risks and impact on the human body and environment. This book Series welcomes manuscripts on in vivo and in vitro diagnostics to therapy including targeted delivery, magnetic resonance imaging (MRI) and regenerative medicine; interface between nanomaterials (surfaces, particles, etc.) or analytical instruments with living human material (cells, tissue, body fluids); new tools and methods that impact significantly existing conservative practices; nanoparticles interaction with biological systems, and their risk assessments; among others.

Valtencir Zucolotto

zuco@ifsc.usp.br

www.escritacientifica.com

www.zucoescrita.com

www.nanomedicina.com.br

www.twitter.com/Nanomedicina

www.twitter.com/writingpapers

www.twitter.com/escreverartigos

