

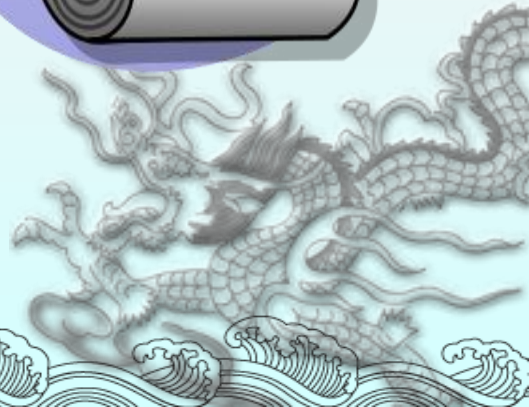
# How to Write an Effective Introduction Section in an English Research Paper

## 如何有效撰寫學術英文研究論文緒論

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國立臺灣大學寫作教學中心



# Outline

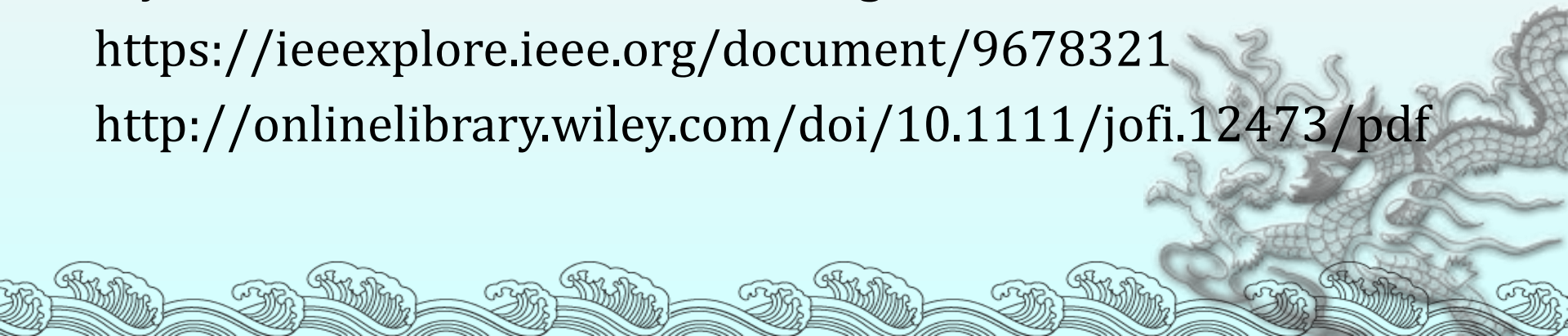
- ◆ Moves in Introduction
- ◆ Language Focus
- ◆ Journal Article Introduction Section

*(The New England Journal of Medicine; IEEE Communications Surveys and Tutorials; The Journal of Finance)*

[http://www.nejm.org/doi/full/10.1056/NEJMoa1504909?query=featured\\_home#t=articleBackground](http://www.nejm.org/doi/full/10.1056/NEJMoa1504909?query=featured_home#t=articleBackground)

<https://ieeexplore.ieee.org/document/9678321>

<http://onlinelibrary.wiley.com/doi/10.1111/jofi.12473/pdf>





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# The New England Journal of Medicine

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**The New England Journal of Medicine (NEJM)** is a weekly [medical journal](#) published by the [Massachusetts Medical Society](#). It is among the most prestigious [peer-reviewed](#) medical journals<sup>[1][2]</sup> as well as the oldest continuously published one.<sup>[1]</sup>

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The NEW ENGLAND  
JOURNAL of MEDICINE

**Discipline** Medicine

**Language** English

**Edited by** Eric Rubin

**Publication details**

**Former name(s)** *The New England Journal of Medicine and Surgery, The New England Medical Review and Journal, The Boston Medical and Surgical Journal*

**History** 1812–present

**Publisher** Massachusetts Medical Society (United States)

**Frequency** weekly

**Open access** Delayed (6 months)

**Impact factor** 74.699 (2019)



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# IEEE Communications Surveys and Tutorials

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## References [\[ edit \]](#)

- ↑ "IEEE Communications Surveys & Tutorials | IEEE Xplore"[↗](#). *ieeexplore.ieee.org*. Retrieved 2022-02-14.

## External links [\[ edit \]](#)

- [Official website](#)[↗](#)
- [IEEE Communications Society](#)[↗](#)

## IEEE Communications Surveys and Tutorials

**Discipline** [Telecommunication technology](#)

**Language** [English](#)

**Edited by** [Ying-Dar Lin](#)

### Publication details

**Former name(s)** *IEEE Communications Surveys*

**History** [1998–present](#)

**Publisher** [IEEE](#)

**Frequency** [Quarterly](#)

**Open access** [Y](#)

**Impact factor** [25.249<sup>\[1\]</sup>](#) (2021)

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# The Journal of Finance

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***The Journal of Finance*** is a [peer-reviewed academic journal](#) published by [Wiley-Blackwell](#) on behalf of the [American Finance Association](#). It was established in 1946. The [editor-in-chief](#) is Stefan Nagel. It is considered to be one of the premier finance journals.<sup>[1][2]</sup> According to the *Journal Citation Reports*, it had a 2015 [impact factor](#) of 5.290, ranking it first out of 94 journals in the category "Business/Finance" and 4th out of 345 in the category "Economics".<sup>[3]</sup> It is listed as one of the 50 journals used by the *Financial Times* to compile its business-school research ranks<sup>[4]</sup> and *Bloomberg Businessweek's* Top 20 Journals.<sup>[5]</sup>

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- 2 Main Lines of Inquiry
- 3 Editors
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- 6 References
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## The Journal of Finance



|                   |                              |
|-------------------|------------------------------|
| <b>Discipline</b> | Finance, economics, business |
| <b>Language</b>   | English                      |
| <b>Edited by</b>  | Stefan Nagel                 |

| Publication details |              |
|---------------------|--------------|
| <b>History</b>      | 1946–present |

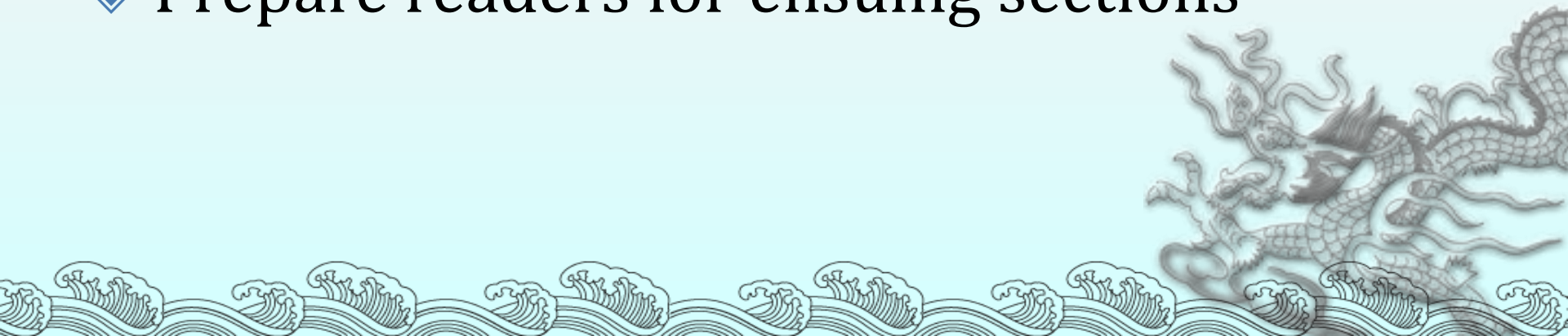
# What is the Purpose of the Research Paper Introduction?

- ◆ In the Introduction you must answer two main questions:
- ◆ 1. Why is this particular study needed to fill the gap in scientific knowledge that currently exists?
- ◆ 2. Why does that gap need filling?



# What is the Purpose of the Research Paper Introduction?

- ◆ Contextualize a research study
  1. present in the relevant study
  2. claim its novelty
  3. present main features of the study
- ◆ Entice the readers
- ◆ Prepare readers for ensuing sections



# What needs to be included in the introduction?

- ◆ Background information about the topic being studied
- ◆ The rationale for undertaking this study (for filling a gap with this particular information)



# What needs to be included in the introduction?

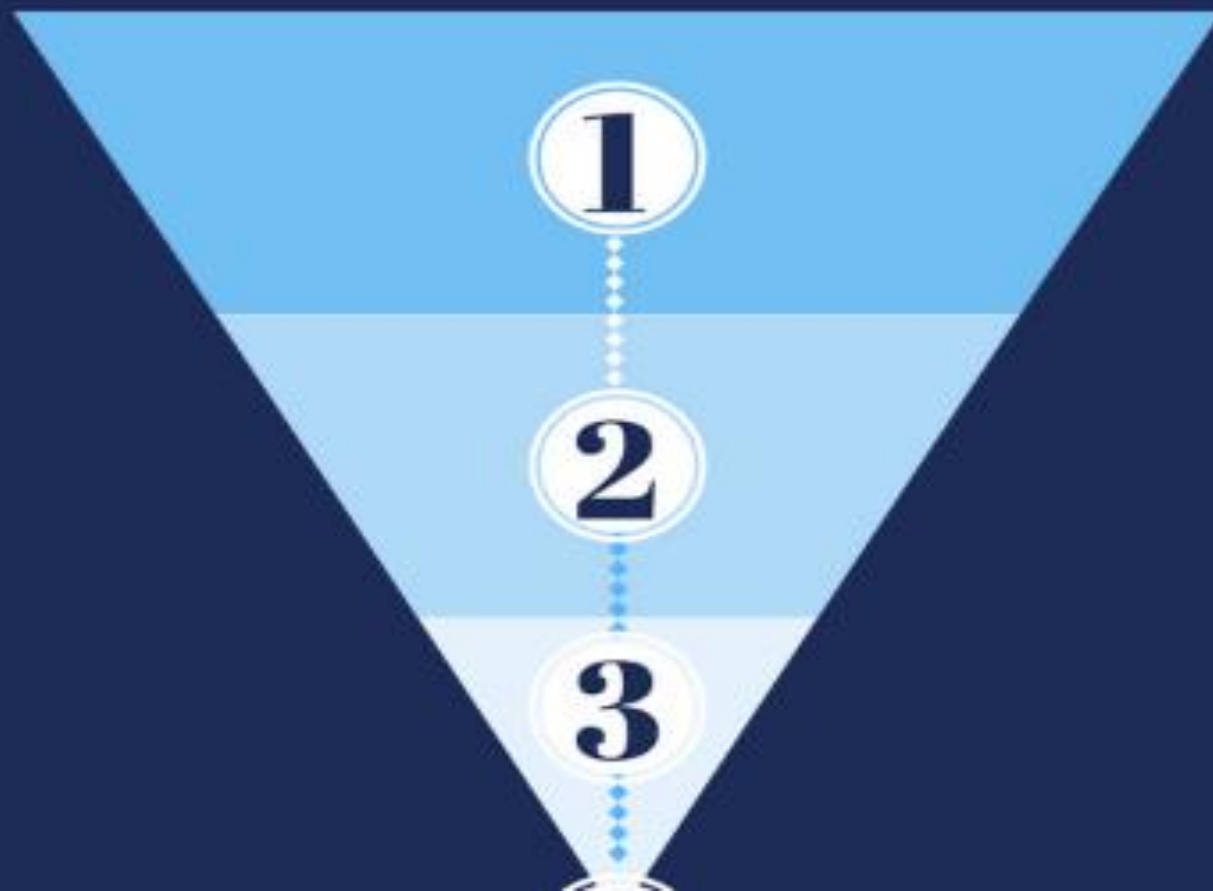
- ◆ A clarification of important terms, definitions, or abbreviations to be used in the paper
- ◆ A review of related studies in which you give a brief but incisive analysis of work that heavily concerns your study



# THE ANATOMY OF A SCIENTIFIC PAPER

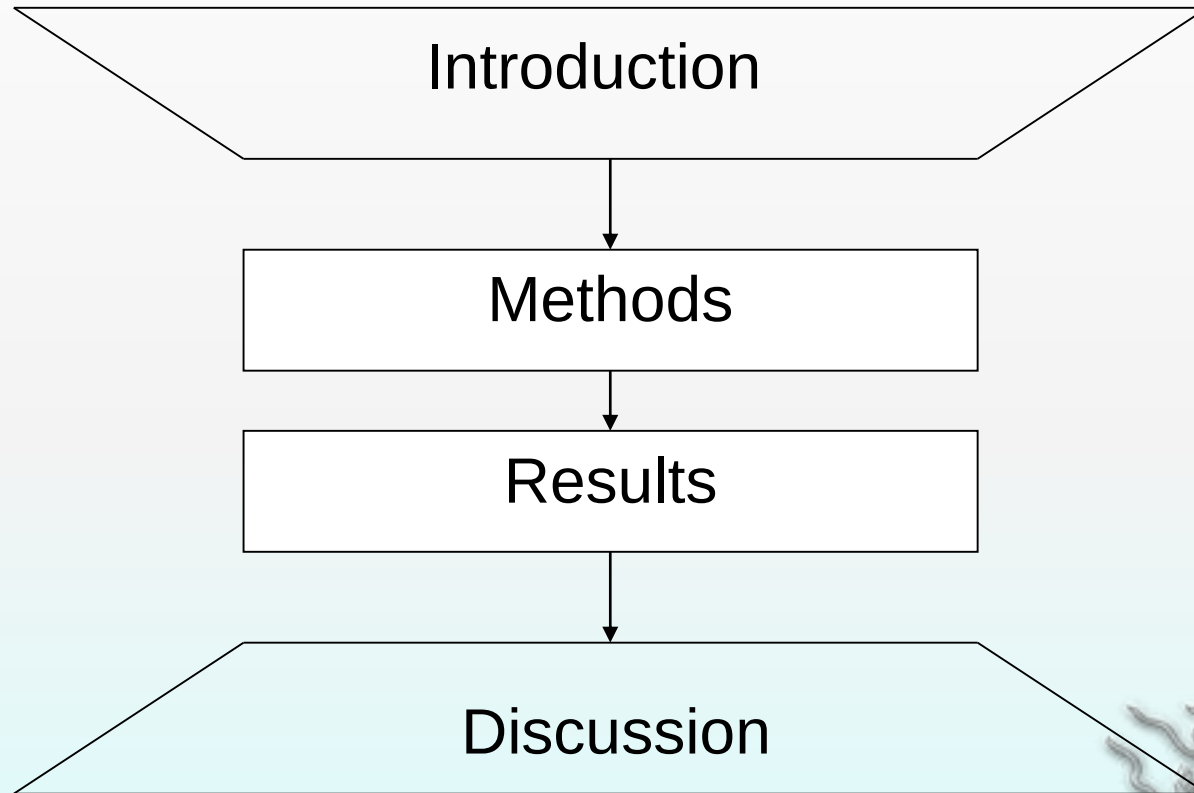


Wordvice



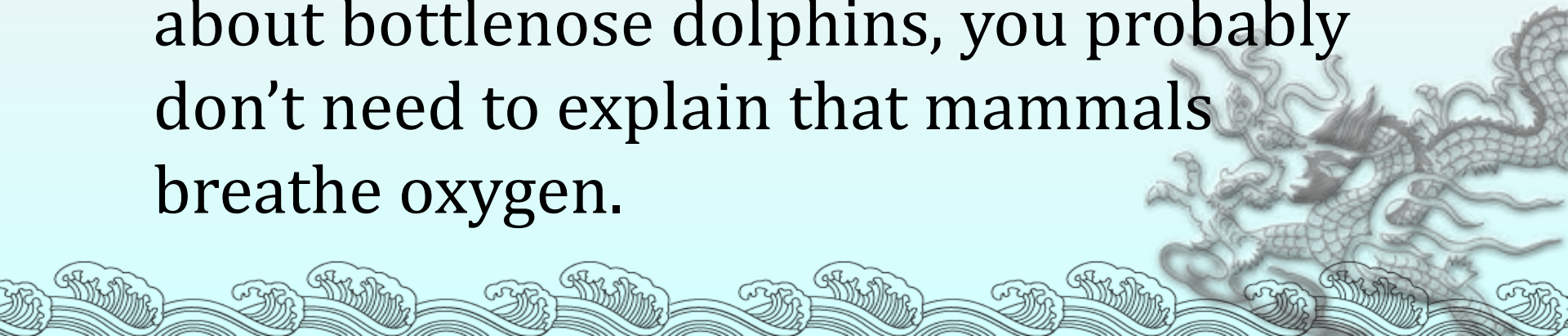
- 1** **INTRODUCTION:**  
What is known?  
(Our understanding of the world)
- 2** What is unknown?  
(What's the gap we want to fill?)
- 3** How and why  
should we fill the gap?  
(Your rationale and purpose/hypothesis)

# Structure of an English Research Paper



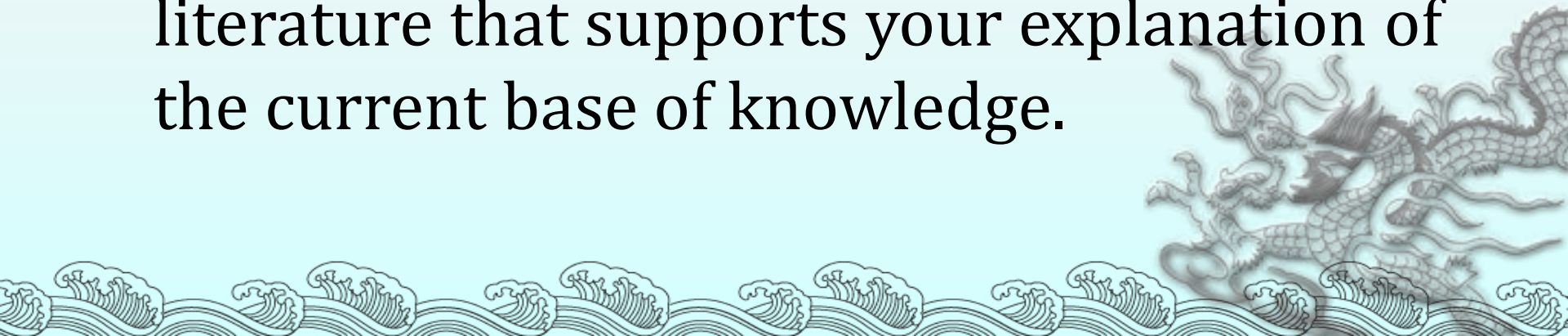
# Tips for Structuring Introduction

- ◆ **The Beginning of the Introduction:**  
*“What do we already know?”*
- ◆ Avoid stating background information that is too broad in nature. You don't need to state too many obvious facts that your readers would know. If you are writing about bottlenose dolphins, you probably don't need to explain that mammals breathe oxygen.



# Tips for Structuring Introduction

- ◆ Be sure to cite all of the sources that you use for background information and support.
- ◆ Only provide the necessary background information and use it to set up the context for undertaking this study.
- ◆ Only review relevant, up-to-date primary literature that supports your explanation of the current base of knowledge.



# Tips for Structuring Introduction

- ◆ **The Second Part of the Introduction:**  
*“Where is the knowledge gap?”*
- ◆ After you have provided background information, you will begin to highlight areas where too little information is available.

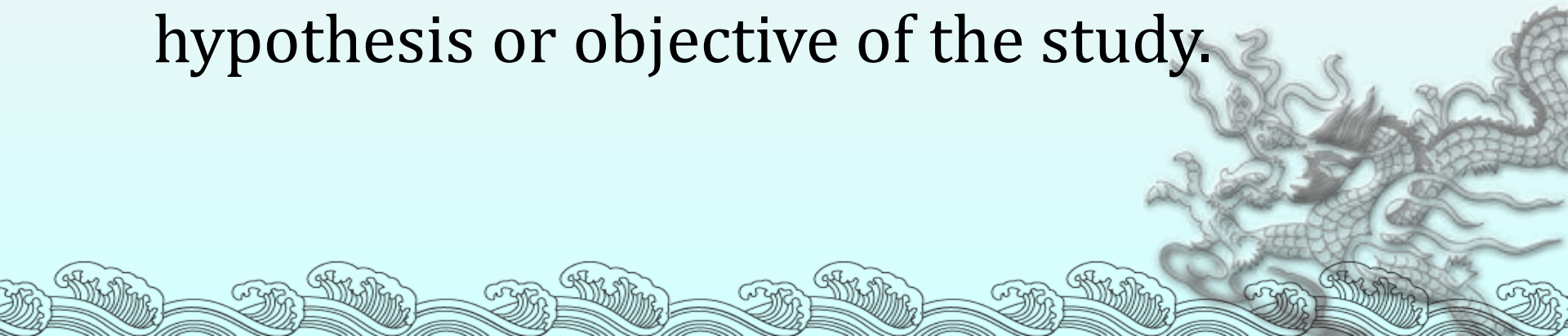


# Tips for Structuring Introduction

- ◆ Explain HOW and WHY we should fill in that gap—what does this missing information impede understanding of a process or system. Identify what logical next steps can be developed based on existing research. By showing you have examined current data and devised a method to find new applications and make new inferences, you are showing your peers that you are aware of the direction your field is moving in and showing confidence in your decision to pursue this study.

# Tips for Structuring Introduction

- ◆ **The final part of the introduction:**  
*“How does your study fill the knowledge gap?”*
- ◆ You have located the missing knowledge and what is needed to fill it, so now you must state your purpose and give a clear hypothesis or objective of the study.



# Moves in Introduction

- ◆ **Move 1 Establishing a research territory**
- ◆ a. by showing that general research area is important, central, interesting, problematic, or relevant in some way (optional)
- ◆ b. by introducing and reviewing items of previous research in the area (obligatory)



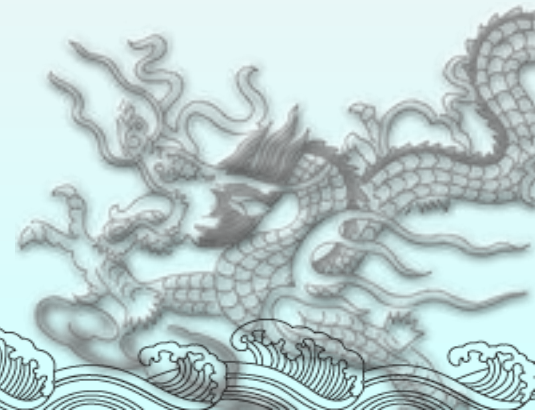
# Moves in Introduction

- ◆ **Move 2 Establishing a niche**
- ◆ a. by indicating a gap in the previous research, or by extending previous knowledge in some way (obligatory)



# Moves in Introduction

- ◆ **Options for establishing a niche**
- ◆ A. counter-claiming (something is wrong)  
\*stronger
- ◆ B. indicating a gap (something is missing)
- ◆ C. raising a question or making an inference  
(something is unclear)
- ◆ D. continuing a tradition (adding something)  
\*weaker

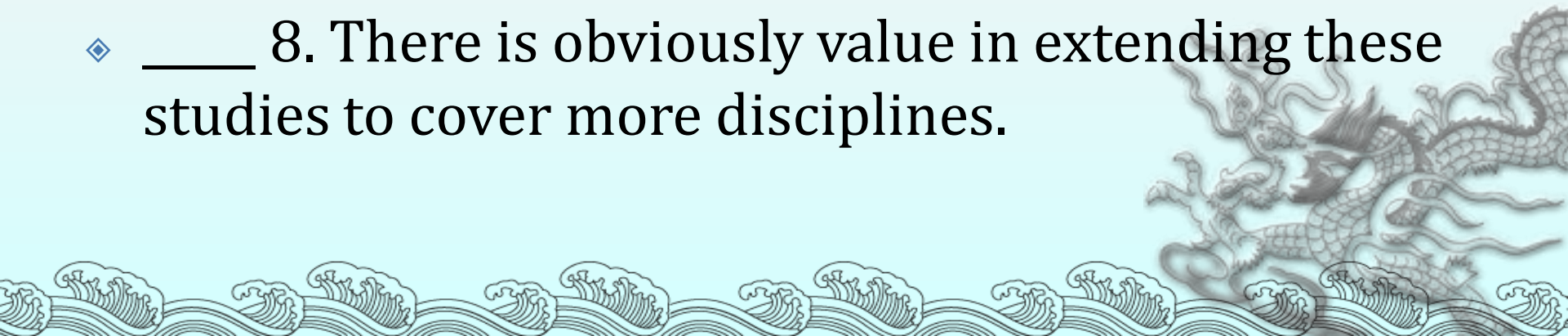


# Moves in Introduction

- ◆ \_\_\_\_ 1. These findings suggest that the number of co-authors might affect the self-citation rate.
- ◆ \_\_\_\_ 2. However, in all three cases, the methodologies used for analyzing self-citations are flawed.
- ◆ \_\_\_\_ 3. One discipline that has been neglected in self-citation studies is history.
- ◆ \_\_\_\_ 4. Studies so far lead to a question that has as yet no clear answer: Do self-citations pay?

# Moves in Introduction

- ◆ \_\_\_\_ 5. It would therefore be interesting to have further information about the citation practices of Norwegian scientists.
- ◆ \_\_\_\_ 6. That said, little is known about how many times individual authors cite their publications.
- ◆ \_\_\_\_ 7. Recent arguments for excluding self-citations from performance assessments rest on a number of false assumptions.
- ◆ \_\_\_\_ 8. There is obviously value in extending these studies to cover more disciplines.



# Language Focus: Negative Openings in Move 2

- ◆ **Non-count**
- ◆ However, little information...
- ◆ Little attention...
- ◆ Little work...
- ◆ Little data...
- ◆ Little research...



# Language Focus: Negative Openings in Move 2

- ◆ **Count**
- ◆ However, few studies...
- ◆ Few investigations...
- ◆ Few researchers...
- ◆ Few attempts...



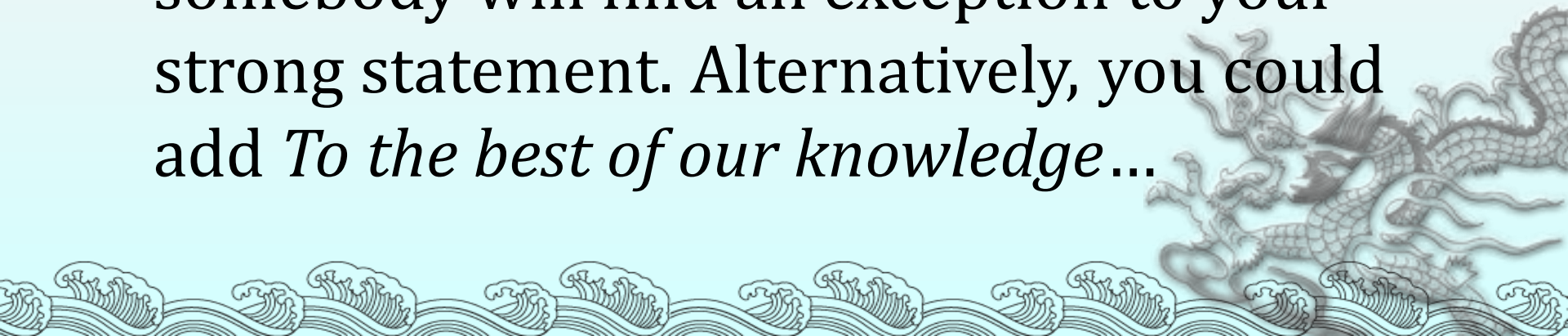
# Language Focus: Negative Openings in Move 2

- ◆ **Note also the use of *no/none of*.**
- ◆ No studies/data/calculations to data have....
- ◆ None of these studies/findings/calculations have....



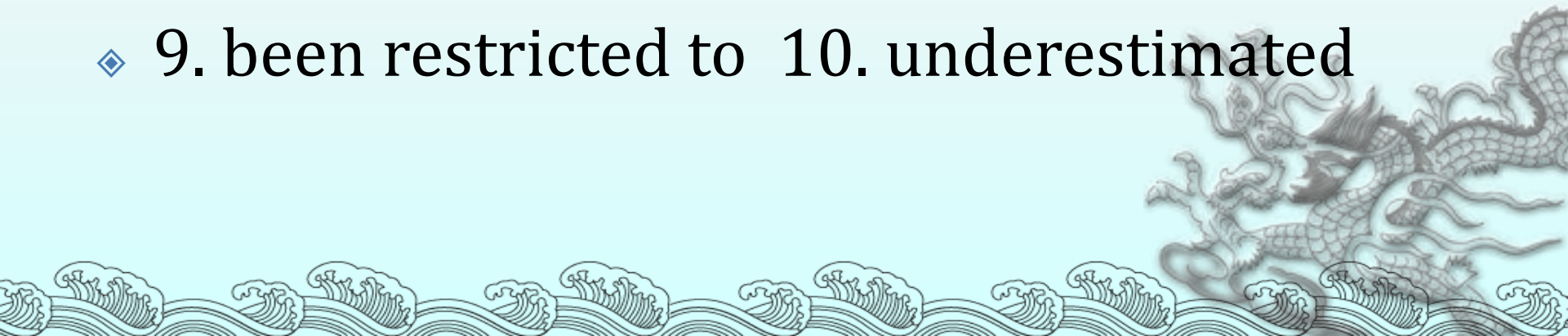
# Language Focus: Negative Openings in Move 2

- ◆ Use *no* when your conclusion is based on (but does not directly refer to) the cited literature. If you want to refer directly to the previous research, use *none of*.
- ◆ However, you may want to avoid using a full negative like *no studies*, chances are that somebody will find an exception to your strong statement. Alternatively, you could add *To the best of our knowledge...*



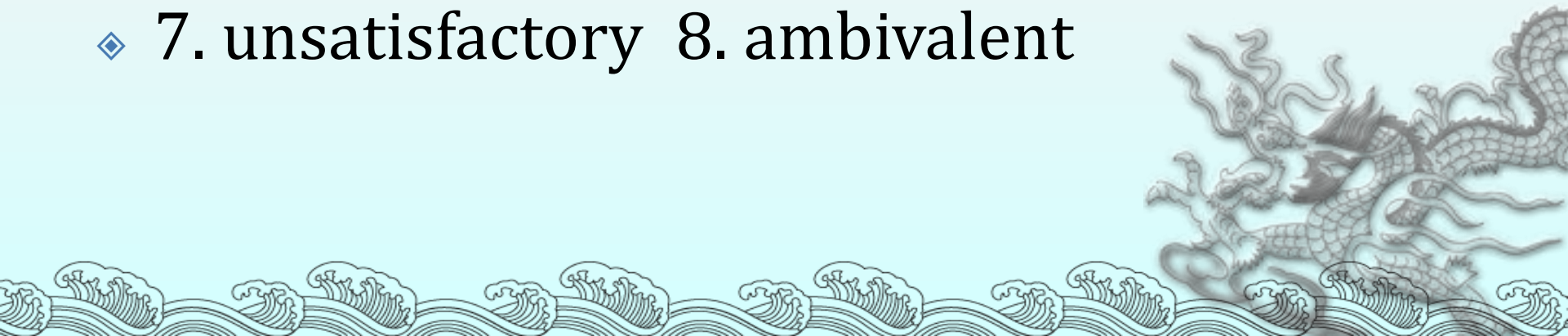
# Strongly negative VS Only slightly negative

- ◆ Verbs: However, previous research on deforestation has \_\_\_\_\_ ....
- ◆ 1. concentrated on 2. disregarded
- ◆ 3. failed to consider 4. ignored
- ◆ 5. been limited to 6. misinterpreted
- ◆ 7. overestimated 8. overlooked
- ◆ 9. been restricted to 10. underestimated



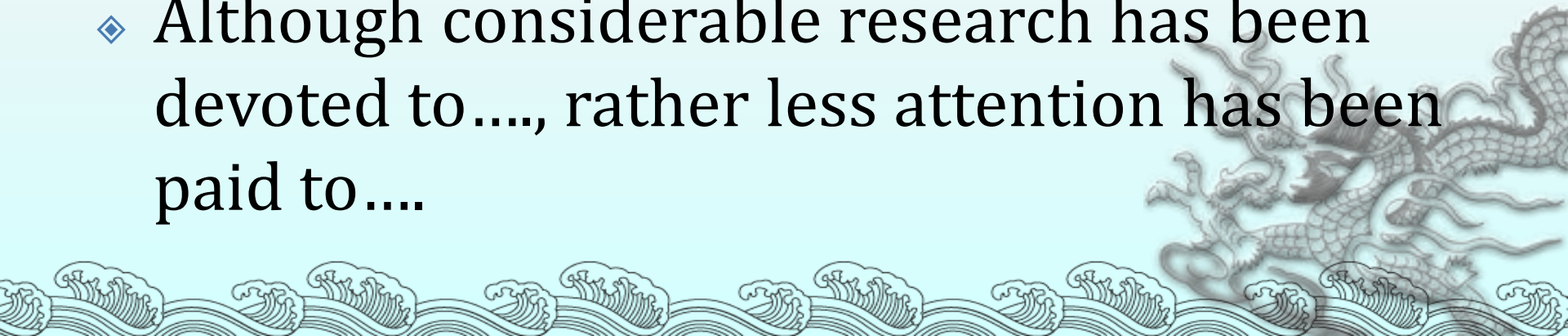
# Strongly negative VS Only slightly negative)

- ◆ Adjectives: Nevertheless, these attempts to establish a link between dental fillings and disease are at present \_\_\_\_\_.
- ◆ 1. controversial 2. incomplete
- ◆ 3. inconclusive 4. misguided
- ◆ 5. questionable 6. unconvincing
- ◆ 7. unsatisfactory 8. ambivalent



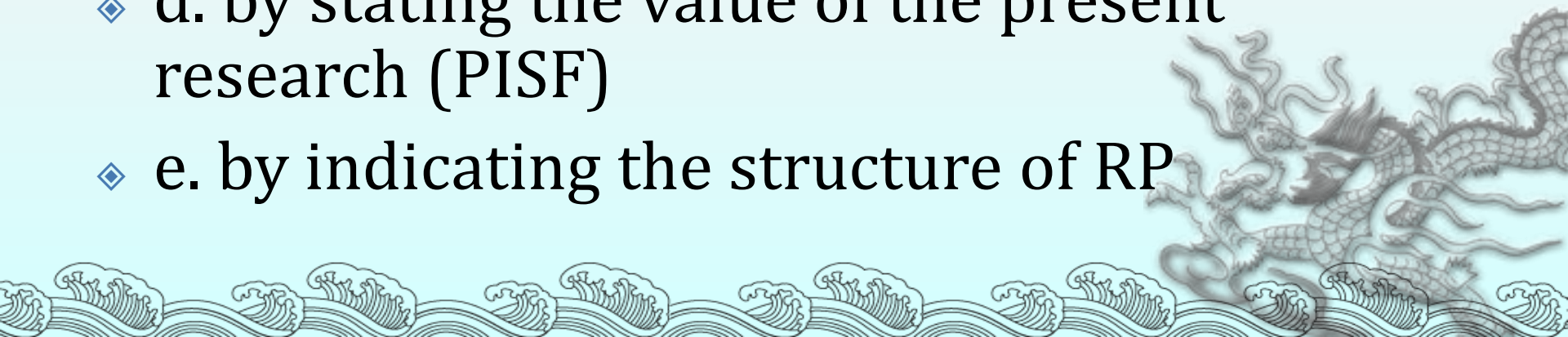
# Strongly negative VS Only slightly negative

- ◆ Useful alternative to use contrastive statement:
- ◆ Research has tended to focus on..., rather than on....
- ◆ These studies have emphasized..., as opposed to....
- ◆ Although considerable research has been devoted to..., rather less attention has been paid to....



# Moves in Introduction

- ◆ **Move 3 Occupying the niche**
- ◆ a. by outlining purposes or stating the nature of the present research (obligatory)
- ◆ b. by listing research questions or hypotheses (PISF)
- ◆ c. by announcing principal findings (PISF)
- ◆ d. by stating the value of the present research (PISF)
- ◆ e. by indicating the structure of RP



# Moves in Introduction

- ◆ **Occupying the niche**

- ◆ 1. Purposive (P)

The author or authors indicate their main purpose or purposes.

- ◆ 2. Descriptive (D)

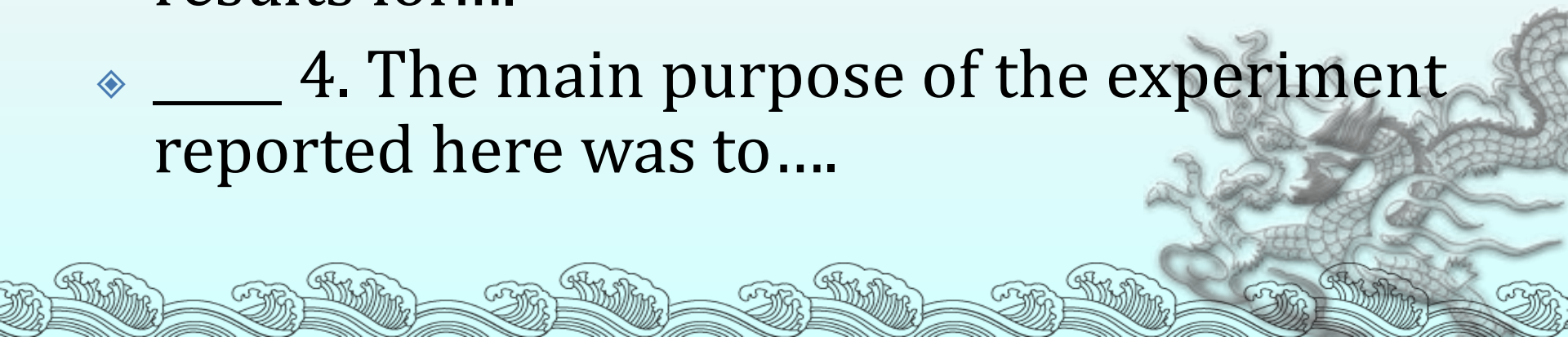
The author or authors describe the main feature of their research.



# Moves in Introduction

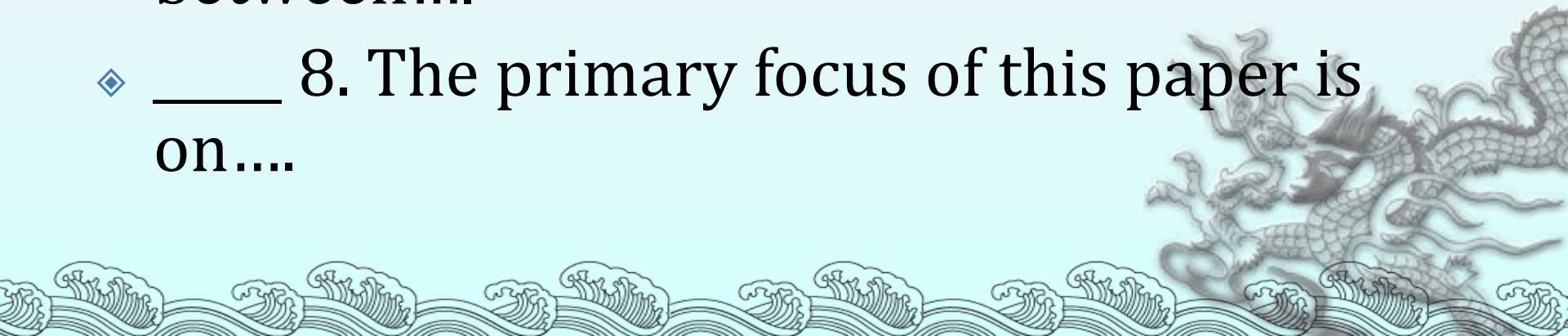
## ◆ **Occupying the niche**

- ◆ \_\_\_\_ 1. The aim of the present paper is to give....
- ◆ \_\_\_\_ 2. This paper reports on the results obtained....
- ◆ \_\_\_\_ 3. In this paper we give preliminary results for....
- ◆ \_\_\_\_ 4. The main purpose of the experiment reported here was to....



# Moves in Introduction

- ◆ **Occupying the niche**
- ◆ \_\_\_\_ 5. This study was designed to evaluate....
- ◆ \_\_\_\_ 6. The present work extends the use of the last model....
- ◆ \_\_\_\_ 7. We now report the interaction between....
- ◆ \_\_\_\_ 8. The primary focus of this paper is on....



# Moves in Introduction

- ◆ **Occupying the niche**

- ◆ \_\_\_\_ 9. The aim of this investigation was to test....
- ◆ \_\_\_\_ 10. Our primary objective in this paper is to provide....



# Language Focus: Citation and Tense

Frequencies of selected features in different sections

|                     | Introduction | Methods | Results  | Discussion |
|---------------------|--------------|---------|----------|------------|
| Present tense       | high         | low     | low      | high       |
| Past tense          | mid          | high    | high     | mid        |
| Citations           | high         | low     | variable | high       |
| Evaluative comments | high         | low     | variable | high       |

# In-text Citation

- ◆ Direct quotation:
  - ◆ 1. Repeat the same text from the author
  - ◆ 2. Put the quoted text in quotation marks
  
- ◆ Indirect quotation:
  - ◆ 1. Rewrite the author's text
  - ◆ 2. Change pronouns and tenses when necessary
  - ◆ 3. Do not use quotation marks



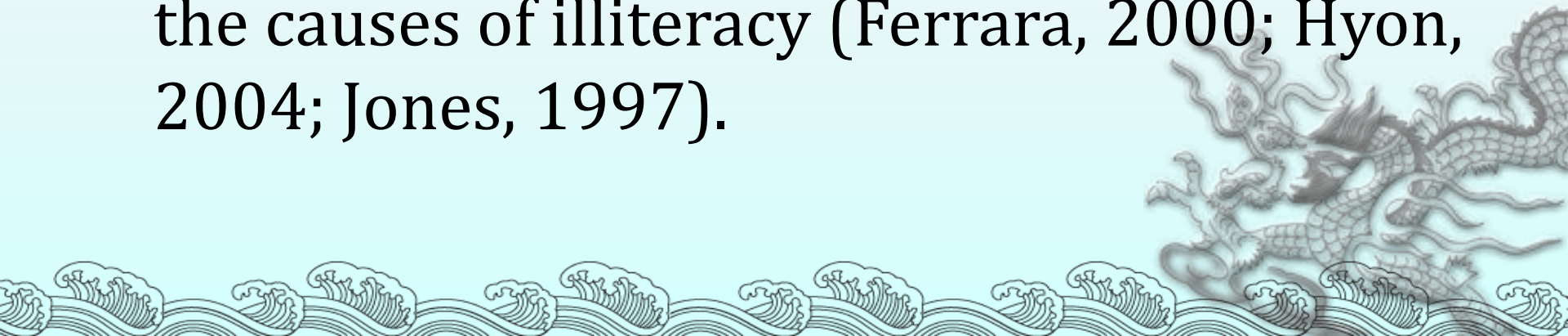
# Language Focus: Citation and Tense

- ◆ Pattern 1: Past—researcher activity as agent
- ◆ Jones (1997) *investigated* the causes of illiteracy.
- ◆ The causes of illiteracy *were investigated* by Jones (1997).



# Language Focus: Citation and Tense

- ◆ Pattern 2: Present Perfect—researcher activity not as agent
- ◆ The causes of illiteracy *have been widely investigated* (Ferrara, 2000; Hyon, 2004; Jones, 1997).
- ◆ There *have been* several investigations into the causes of illiteracy (Ferrara, 2000; Hyon, 2004; Jones, 1997).



# Language Focus: Citation and Tense

- ◆ Pattern 3: Present—no reference to researcher activity
- ◆ The causes of illiteracy *are* complex (Ferrara, 2000; Hyon, 2004; Jones, 1997).
- ◆ Illiteracy *appears to have* a complex set of causes (Ferrara, 2000; Hyon, 2004; Jones, 1997).



# Language Focus: Citation and Tense

- ◆ Pattern 1—reference to single studies—past
- ◆ Pattern 2—reference to areas of inquiry—present perfect
- ◆ Pattern 3—reference to state of current knowledge—present



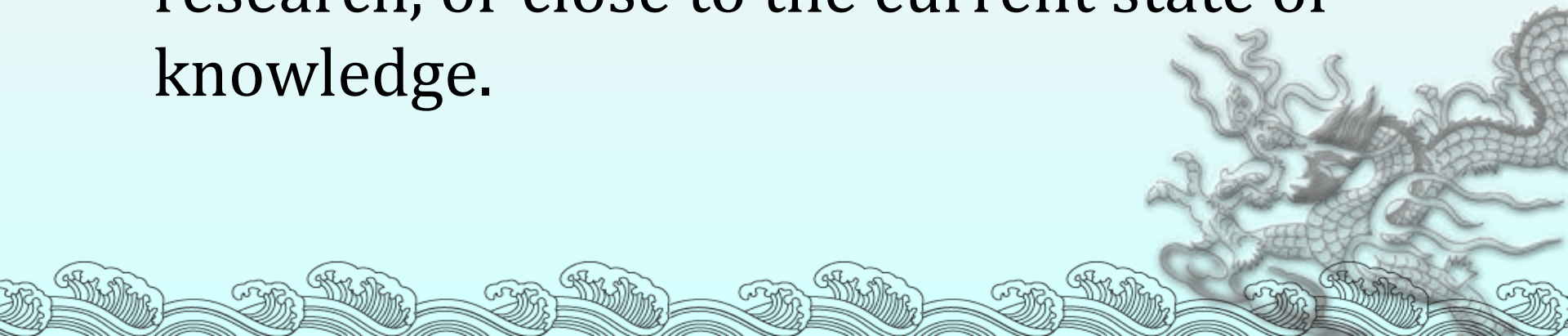
# Language Focus: Citation and Tense

- ◆ Jones (1997) *concluded* that illiteracy...
- ◆ Jones (1997) *has concluded* that illiteracy...
- ◆ Jones (1997) *concludes* that illiteracy...



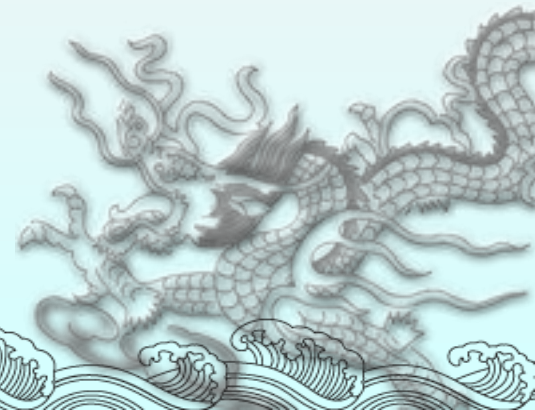
# Language Focus: Citation and Tense

- ◆ The differences among these are subtle. In general, moves from past to present perfect and then to present indicate that the research reported is increasingly close to the writer in some way: close to the writer's own opinion, or close to the writer's own research, or close to the current state of knowledge.



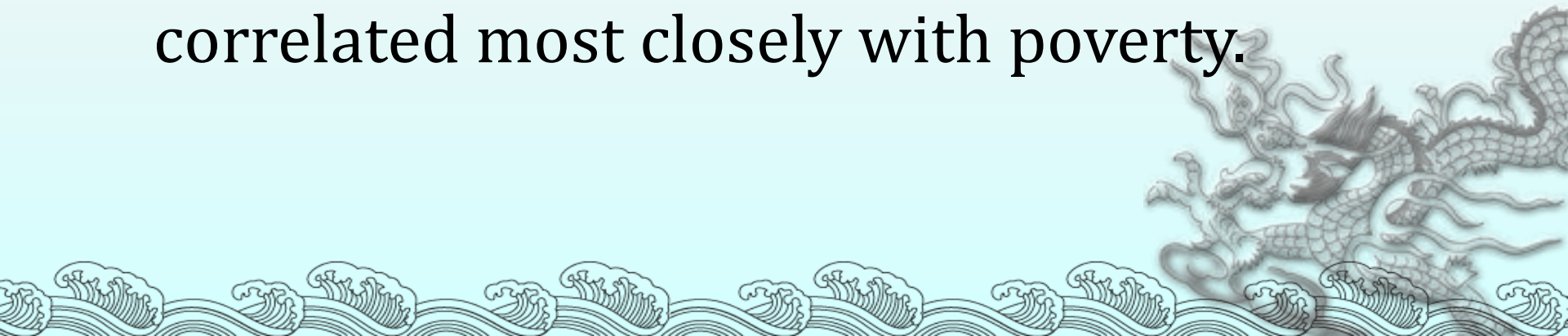
# Language Focus: Citation and Tense

- ◆ The present tense choice is sometimes called the *citational present* and is also used with famous or important sources.
- ◆ Plato argues that...
- ◆ Confucius says...
- ◆ The Bible says...
- ◆ The Constitution states...



# Language Focus: Citation and Tense

- ◆ Comparable options exist in the subordinate clause.
- ◆ Jones (1997) found that literacy *was* correlated most closely with poverty.
- ◆ Jones (1997) found that literacy *is* correlated most closely with poverty.



# Language Focus: Citation and Tense

- ◆ The first sentence shows that the writer believes that the finding should be understood within the context of the single study. In the second, the writer implies that a wider generalization is possible.



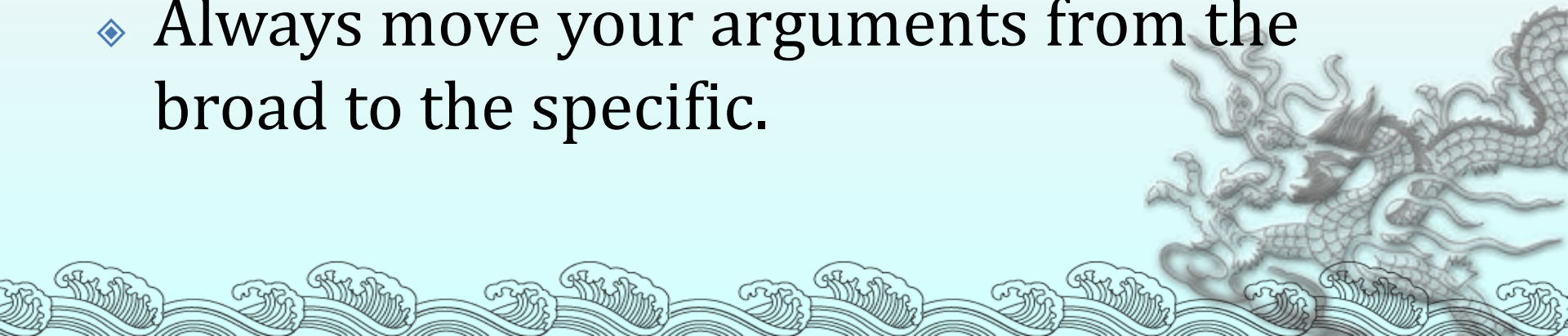
# Some Grammar and Style Reminders

- ◆ In addition to content and organization, writers of research papers should also be aware of grammar and style issues that directly affect the readability and strength of their work. A strong introduction will encourage readers to read your entire research paper and help get your work published in scientific journals.



# Some Grammar and Style Reminders

- ◆ Try and write in the active voice when it is possible—this will shorten your sentences and enhance the impact of your information.
- ◆ Write concise sentences—this will allow you to get in all the necessary information in this compact introduction section.
- ◆ Always move your arguments from the broad to the specific.



# Some Examples

- ◆ There are a great deal of reports that show excessive sleeping and eating during holidays may lead to the post-holiday syndrome negatively, including headaches, inattention and irritability. (conciseness; adverb placement)
- ◆ Revised: Many reports show excessive sleeping and eating during holidays may negatively lead to the post-holiday syndrome, including headaches, inattention and irritability.

# Some Examples

- ◆ There are some inorganic materials that can be used in tissue engineering by bioengineers in the process of tissue engineering that have been shown to be very promising. (conciseness)
- ◆ Revised: Some inorganic materials have shown great promise in tissue engineering.



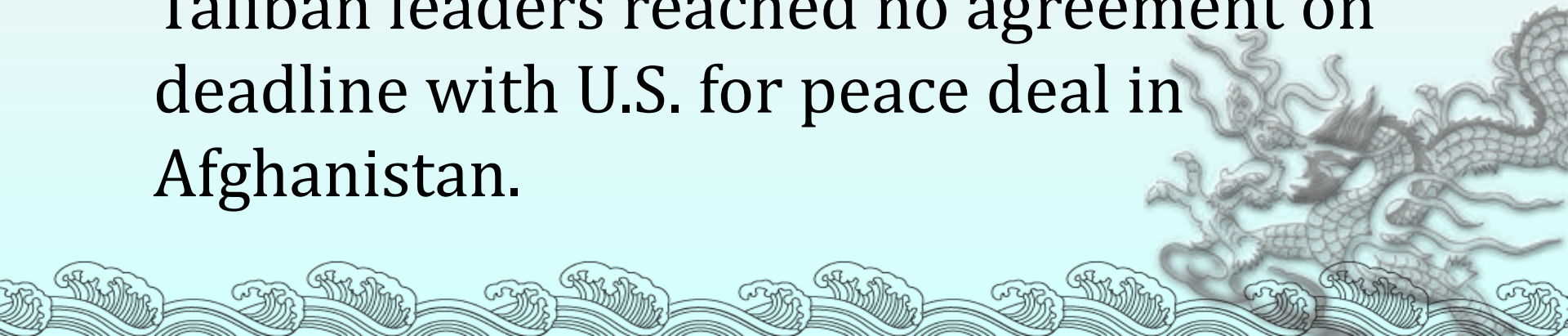
# Some Examples

- ◆ It may be difficult to make a decision about the method that should be used.  
(conciseness)
- ◆ Revised: Choosing the proper method may be difficult.



# Some Examples

- ◆ As you can indicate from the interviews,  
Taliban leaders did not reach any  
agreement on deadline with U.S. for peace  
deal in Afghanistan. (impersonal style of  
writing; formal negatives)
- ◆ Revised: As indicated from the interviews,  
Taliban leaders reached no agreement on  
deadline with U.S. for peace deal in  
Afghanistan.



# Some Examples

- ◆ **Big** cholesterol increases the risk of getting heart diseases, so medical experts advise potential patients to increase soluble fiber, add whey protein, reduce saturated fats, **and so on** in their diets. (formal and unambiguous expressions)
- ◆ Revised: High cholesterol increases the risk of getting heart diseases, so medical experts advise potential patients to increase soluble fiber, add whey protein, and reduce saturated fats in their diets.

# Some Examples

- ◆ When will the borders open again?  
Governments in the world hope to tell it in advance. (indirect questions)
- ◆ Revised: Governments in the world hope to predict when the borders will open again.



# Some Examples

- ◆ Friendship dyads are associated with more socially competent play than non-friend dyads. It is likely that this \_\_\_\_\_ reflects a complex process that evolves over time in which children's competence supports friendship development. (a good old-to-new flow of information)



# Some Examples

- ◆ In fact, mathematics is a discipline whose teaching and learning is considered to be difficult. This \_\_\_\_\_ results from the complex nature of mathematics. (a good old-to-new flow of information)



Thank you very much!

