

## Paper Structure and Content

### IMRAD

- Introduction
- Methods
- Results
- Analysis
- Discussion/conclusion

### Methods, Results, Analysis

- Data/results
- Inference
- Interpretation

### Discussion, Conclusion

- Summarize findings
- Transition
- Evaluate findings
- Implications
- Limitations
- Consider findings within larger research area
- Possible future work
- Leave a "final message"

### Introduction

- **OCAR Model** (Create a Research Space Model)
- **Mean 1. Establish a research territory**
  - introduce and review previous research (Q)
  - show importance, central, newest, problem, relevancy (Q)
- **Mean 2. Establish a niche**
  - introduce a gap or extend previous knowledge (Q)
  - outline a specific or nature of present research (Q)
  - set research questions or hypotheses (P/SP)
  - reference previous findings (P/SP)
  - state value of current research (P/SP)
  - establish structure of the research paper (P/SP)
- **P/SP** = problem in some field, rate in others (P = relevant)

### Resolution

- Does it
  - have your "take-home message"?
  - use your strongest and most memorable words?
  - step backwards through OCAR? (synthesize the action, answer the question, demonstrate contribution to larger problem)
  - explain how the characters and their world changed as a result of the action?
  - show how our understanding of "nature" has advanced?
  - concentrate on what you achieved rather than what you didn't achieve?

### Story Telling

- OCAR
  - Opening
  - Challenge
  - Action
  - Resolution

### Action

Consists of Materials, Methods, Results/Analysis and most of Discussion

- Do you
  - clearly differentiate between Data, Inference and Interpretation?
  - answer the question "What has been done to address the challenge?"
  - show your contribution to the larger problem?

### Challenge

- Does it
  - contain an obvious challenge?
  - described the specific knowledge you hope to gain? (The question that drove you to do the research)
  - briefly lay out the research approach ("to learn X, we did Y")
  - provide a brief overview of the conclusions?

### Opening

- Whom/what is the story about/who are the characters?
- Where does the story take place?
- What does your reader need to understand about the situation to follow the story?
- What is the larger problem you are addressing?

### Introduction

- Does it
  - define a problem and narrow to an interesting question?
  - show us what we don't know and why it is important?
  - identify the boundaries of current knowledge?
  - connect the opening and the challenge?

# IMRAD

- Introduction
- Methods
- Results
- Analysis
- Discussion/conclusion

# Introduction

**CARS Model** (Create a Research Space Model)

**Move 1. Establish a research territory**

- introduce and review previous research (O)
- show importance, central interest, problem, relevancy (O)

**Move 2. Establish a niche**

- indicate a gap or extend previous knowledge (O)

**Move 3. Occupy the niche**

- outline purposes or nature of present research (O)
- list research questions or hypotheses (PISF)
- announce principal findings (PISF)
- state value of present research (PISF)
- indicate structure of the research paper (PISF)

PISF = probable in some fields, rare in others

O = obligatory

# Methods, Results, Analysis

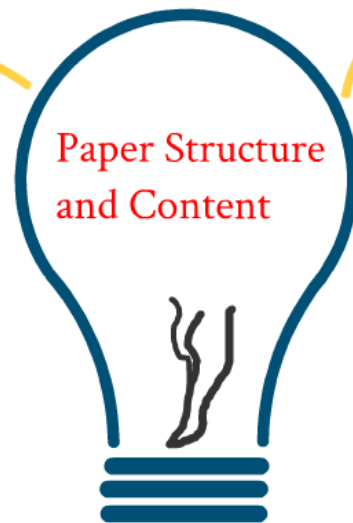
- Data/results
- Inference
- Interpretation



# Discussion, Conclusion

- Summarise findings
- Transition
- Evaluate findings
- Implications
- Limitations
- Consider findings within larger research area
- Possible future work
- Leave a “final message”





## Paper Structure and Content

### IMRAD

- Introduction
- Methods
- Results
- Analysis
- Discussion/conclusion

### Methods, Results, Analysis

- Data/results
- Inference
- Interpretation

### Discussion, Conclusion

- Summarize findings
- Transition
- Evaluate findings
- Implications
- Limitations
- Consider findings within larger research area
- Possible future work
- Leave a "final message"

### Introduction

- **OCAR Model** (Create a Research Space Model)
- **Mean 1. Establish a research territory**
  - introduce and review previous research (Q)
  - show importance, central, newest, problem, relevancy (Q)
- **Mean 2. Establish a niche**
  - introduce a gap or extend previous knowledge (Q)
  - outline a specific or nature of present research (Q)
  - set research questions or hypotheses (P/SP)
  - reference previous findings (P/SP)
  - state value of current research (P/SP)
  - establish structure of the research paper (P/SP)
- **P/SP** = problem in some field, state in others (P = philosophy)

### Resolution

- Does it
  - have your "take-home message"?
  - use your strongest and most memorable words?
  - step backwards through OCAR? (synthesize the action, answer the question, demonstrate contribution to larger problem)
  - explain how the characters and their world changed as a result of the action?
  - show how our understanding of "nature" has advanced?
  - concentrate on what you achieved rather than what you didn't achieve?

### Story Telling

- OCAR
  - Opening
  - Challenge
  - Action
  - Resolution

### Action

Consists of Materials, Methods, Results/Analysis and most of Discussion

- Do you
  - clearly differentiate between Data, Inference and Interpretation?
  - answer the question "What has been done to address the challenge?"
  - show your contribution to the larger problem?

### Challenge

- Does it
  - contain an obvious challenge?
  - described the specific knowledge you hope to gain? (The question that drove you to do the research)
  - briefly lay out the research approach ("to learn X, we did Y")
  - provide a brief overview of the conclusions?

### Opening

- Whom/what is the story about/who are the characters?
- Where does the story take place?
- What does your reader need to understand about the situation to follow the story?
- What is the larger problem you are addressing?

### Introduction


- Does it
  - define a problem and narrow to an interesting question?
  - show us what we don't know and why it is important?
  - identify the boundaries of current knowledge?
  - connect the opening and the challenge?



# Story Telling



OCAR

- Opening
  - Challenge
  - Action
  - Resolution
- 



# Opening

- Whom/what is the story about/who are the characters?
- Where does the story take place?
- What does your reader need to understand about the situation to follow the story?
- What is the larger problem you are addressing?



# Challenge

Does it

- contain an obvious challenge?
- described the specific knowledge you hope to gain? (The question that drove you to do the research)
- briefly lay out the research approach (“to learn X, we did Y”)
- provide a brief overview of the conclusions?

# Introduction

Does it

- define a problem and narrow to an interesting question?
- show us what we don't know and why it is important?
- identify the boundaries of current knowledge?
- connect the opening and the challenge?

# Action

*Consists of Materials, Methods, Results/  
Analysis and most of Discussion*

Do you

- clearly differentiate between Data, Inference and Interpretation?
- answer the question “What has been done to address the challenge?”
- show your contribution to the larger problem?

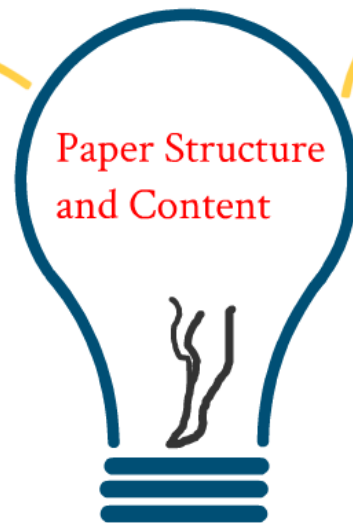


# Resolution

Does it

- have your “take-home message”?
- use your strongest and most memorable words?
- step backwards through OCAR? (reiterate the action, answer the questions, demonstrate contribution to larger problem)
- explain how the characters and their world changed as a result of the action?
- show how our understanding of “nature” has advanced?
- concentrate on what you achieved rather than what you didn’t achieve?





## Paper Structure and Content

### IMRAD

- Introduction
- Methods
- Results
- Analysis
- Discussion/conclusion

### Methods, Results, Analysis

- Data/results
- Inference
- Interpretation

### Discussion, Conclusion

- Summarize findings
- Transition
- Evaluate findings
- Implications
- Limitations
- Consider findings within larger research area
- Possible future work
- Leave a "final message"

### Introduction

- **OCAR Model** (Create a Research Space Model)
- **Mean 1. Establish a research territory**
  - introduce and review previous research (Q)
  - show importance, central, newest, problem, relevancy (Q)
- **Mean 2. Establish a niche**
  - introduce a gap or extend previous knowledge (Q)
  - outline a specific or nature of present research (Q)
  - set research questions or hypotheses (P/SP)
  - reference previous findings (P/SP)
  - state value of current research (P/SP)
  - establish structure of the research paper (P/SP)
- **P/SP** = preferable to write first, rate in others (P = relevant)

### Resolution

- Does it
  - have your "take-home message"?
  - use your strongest and most memorable words?
  - step backwards through OCAR? (synthesize the action, answer the question, demonstrate contribution to larger problem)
  - explain how the characters and their world changed as a result of the action?
  - show how our understanding of "nature" has advanced?
  - concentrate on what you achieved rather than what you didn't achieve?

### Story Telling

- OCAR
  - Opening
  - Challenge
  - Action
  - Resolution

### Action

Consists of Materials, Methods, Results/Analysis and most of Discussion

- Do you
  - clearly differentiate between Data, Inference and Interpretation?
  - answer the question "What has been done to address the challenge?"
  - show your contribution to the larger problem?

### Challenge

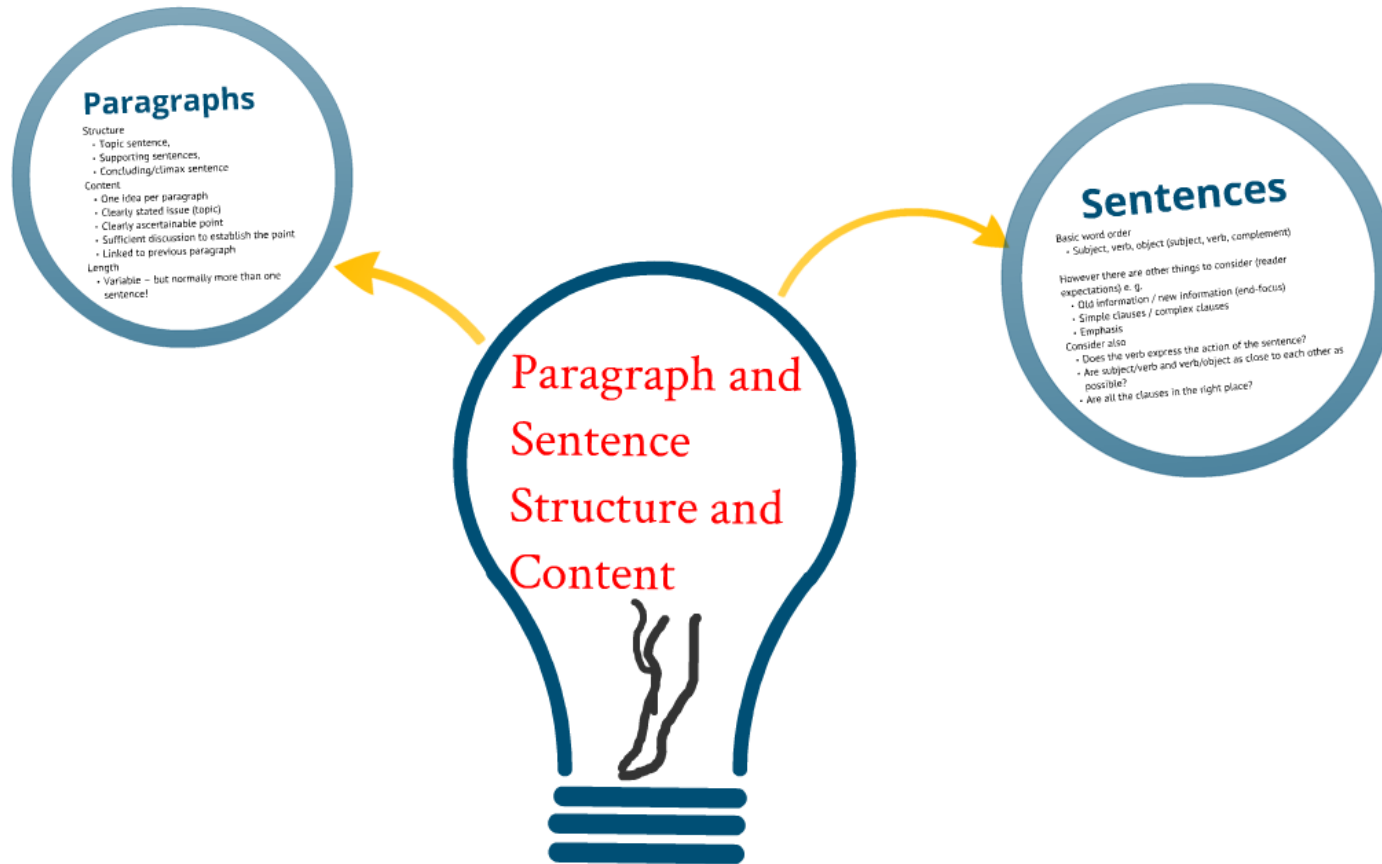
- Does it
  - contain an obvious challenge?
  - described the specific knowledge you hope to gain? (The question that drove you to do the research)
  - briefly lay out the research approach ("to learn X, we did Y")
  - provide a brief overview of the conclusions?

### Opening

- Whom/what is the story about/who are the characters?
- Where does the story take place?
- What does your reader need to understand about the situation to follow the story?
- What is the larger problem you are addressing?

### Introduction

- Does it
  - define a problem and narrow to an interesting question?
  - show us what we don't know and why it is important?
  - identify the boundaries of current knowledge?
  - connect the opening and the challenge?



# Paragraphs

## Structure

- Topic sentence,
- Supporting sentences,
- Concluding/climax sentence

## Content

- One idea per paragraph
- Clearly stated issue (topic)
- Clearly ascertainable point
- Sufficient discussion to establish the point
- Linked to previous paragraph

## Length

- Variable – but normally more than one sentence!







# Sentences

Basic word order

- Subject, verb, object (subject, verb, complement)

However there are other things to consider (reader expectations) e. g.

- Old information / new information (end-focus)
- Simple clauses / complex clauses
- Emphasis

Consider also

- Does the verb express the action of the sentence?
- Are subject/verb and verb/object as close to each other as possible?
- Are all the clauses in the right place?

