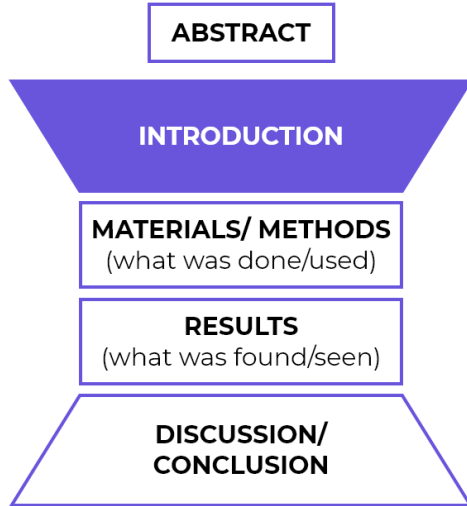


# **Section 2. Introduction as an IMRD component**

Unit 1. Introduction: Structural analysis

# Outline



- Basic components of the introduction
- Structural/functional analysis of a sample introduction

# What is the purpose of each sentence?

## **Ask yourselves:**

What is the tense of the main verb?

What is that tense normally used for?

Is it the same tense as in the previous sentence?

If not, why has the writer changed the tense?

What words has the writer chosen to use?

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

### Introduction

**1** Copper-zinc alloys have gained significant attention in recent years due to their exceptional strength and corrosion resistance, which offer important benefits in various industrial applications. **2** These alloys are produced by combining copper and zinc through a process of metallurgy. **3** They have potential uses in the biomedical field<sup>1</sup> and have also been investigated as potential engineering materials.<sup>2,3</sup> **4** However, the alloys have been found to be too brittle under impact to be used commercially.<sup>4</sup> **5** One way to improve the mechanical properties of alloys is to incorporate other elements into the mixture<sup>5</sup> and there has been extensive research regarding the modification of copper-zinc alloys. **6** For example, Smith et al. showed that copper-zinc alloys could be prepared using blending techniques<sup>6</sup> and more recently, Hill established the toughness of such alloys.<sup>7</sup> **7** However, although the effect of the added elements on the mechanical properties of the alloys was demonstrated over two years ago,<sup>8</sup> little attention has been paid to the selection of appropriate elements. **8** The present paper presents a set of criteria for selecting such elements. **9** On the basis of these criteria, it then describes the preparation of a set of alloys using copper and a nickel alloy (Ni-Cu). **10** This combination of two distinct metals formed a novel alloy in which the incorporation of Ni-Cu significantly increased strength and ductility.

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 1:  
the importance  
of this research topic**

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

### Introduction

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**Sentence 2:  
a broad context**

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 3: detailed background using references to other studies**

**Don't the research references mean that this is the part of the literature review?**

**NO**

*Literature review* is in the introduction of a research article to discuss specific studies, their methodologies or findings

# Why include references if they are merely for context?

- Avoid plagiarism
- To find the studies mentioned
- Potential unfamiliarity with the research field

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 4: the general area of concern/  
the current area  
of research focus**

# A sample introduction section

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**Sentence 5: transitions between general problem areas and literature review**

# A sample introduction section

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**Sentence 6: an overview of important research projects in this area**

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 7: a gap in the research**

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 8:  
the description  
of the paper**

# A sample introduction section

## The synthesis of high-strength alloys from copper and zinc

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**Sentence 9:**  
details about  
the methodology

# A sample introduction section

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**Sentence 10:  
the findings**

## **The functions of our sample**

Sentence 1: the importance of this research topic

Sentence 2: a broad context

Sentence 3: background in more detail using references to other studies

Sentence 4: the general area of concern/the current area of research focus

Sentence 5: transitions between general problem areas and literature review

Sentence 6: an overview of important research projects in this area

Sentence 7: a gap in the research

Sentence 8: description of the paper

Sentence 9: details about the methodology

Sentence 10: the findings

# Components of introduction

- I. Establishing the importance of the field:
  - background facts/information(possibly from research)
  - definition of the terminology in the title/key words
  - the problem area/current research focus
- II. Previous and/or current research and contributions
- III. Locating a gap in the research
  - the problem to be addressed
  - a prediction to be tested/a hypothesis
- IV. Brief outline of the paper

# Summary

Introduction section is composed of 4 components and:

- Justifies the importance of the study
- Refers to the previous research
- Establishes gaps and novelty
- Clarifies the problem
- Gives brief description of the paper