

Paragraphs, topic sentences,  
the problem-solution pattern

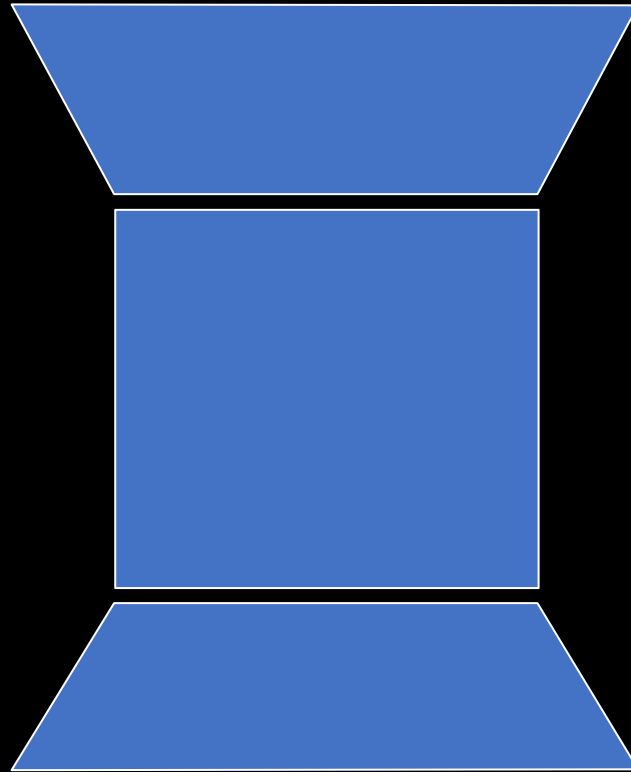
# Do you have any advice for writing effective paragraphs?

- Are there any rules?
- What makes an effective paragraph?
- When & why should you begin a new paragraph?
- *Discuss in small groups, and be prepared to share your ideas with the class.*

# Paragraphs

Open the handout in MyCourses. In which places would you begin a new paragraph?

# Visualising the structure of a paragraph



# The structure of a paragraph

Each paragraph should have a unified purpose (focus on **one** main theme/idea).

## Introduction

- **Topic sentence:** usually the first sentence, introduces the focus of the paragraph

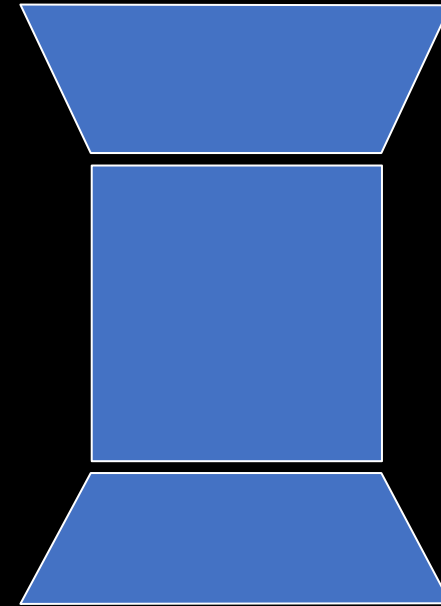
## Body

- **Supporting sentences:** explanation, evidence, examples, argument

## Conclusion

- **Concluding sentence:** may summarize or underscore the main thought of the paragraph / transition to the next

**New idea = new paragraph + new topic sentence**



# Topic sentences

Nietzsche's remark that 'God is dead' encapsulates one of the central tenets of his philosophy

topic



Nietzsche's remark that 'God is dead' encapsulates one of the central tenets of his philosophy.

Controlling idea



# A good topic sentence contains

- The topic of the paragraph
- The controlling idea to be developed



# Speed reading

- Pair work

Find an academic article on a subject of your choice using Google Scholar

Read through the article by reading **only the first sentence** of every paragraph

Discuss what the article was about

If you had a good idea of the content

The author was effective at using TOPIC SENTENCES

Why is this a poor topic sentence?

- **"Sartre was a French writer and philosopher"**

Topic



- **"Sartre was a French writer and philosopher"**

Controlling idea?



Topic



- "Sartre's existentialist ideas revolutionized French literature and philosophy"



Controlling  
idea

# Structure & Organisation

## - small group task

Read the three versions of the same project proposal (handout in MyCourse)

In groups of three, discuss which version best convinces the reader to fund the project. Why? Why are the others less effective?





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Press release

- Why write a press release?



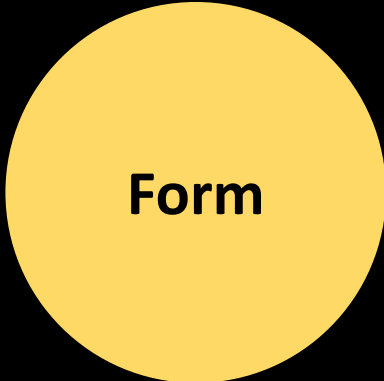
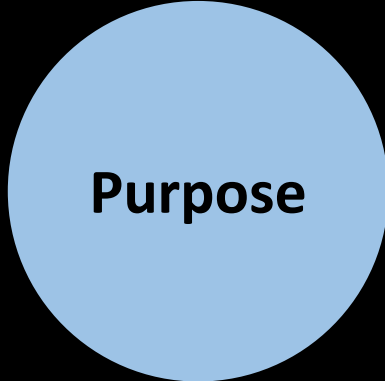
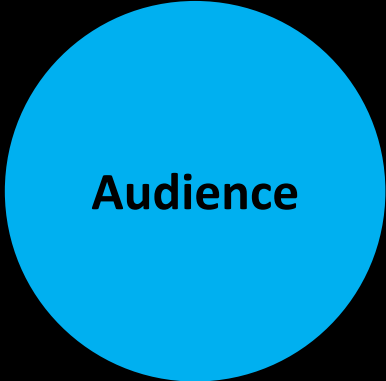
- Ability to describe research to a wider audience
- Ability to contextualise research, place it in its societal context
- Which can help you:
  - Promote your own research and gain funding
  - Enhance your career opportunities



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# How to write a press release

What is an academic press release?





**Audience**

**Purpose**

**Who is the text for?**

e.g. Professor, Journal editor, Public, Employer...

**Form**



**Audience**

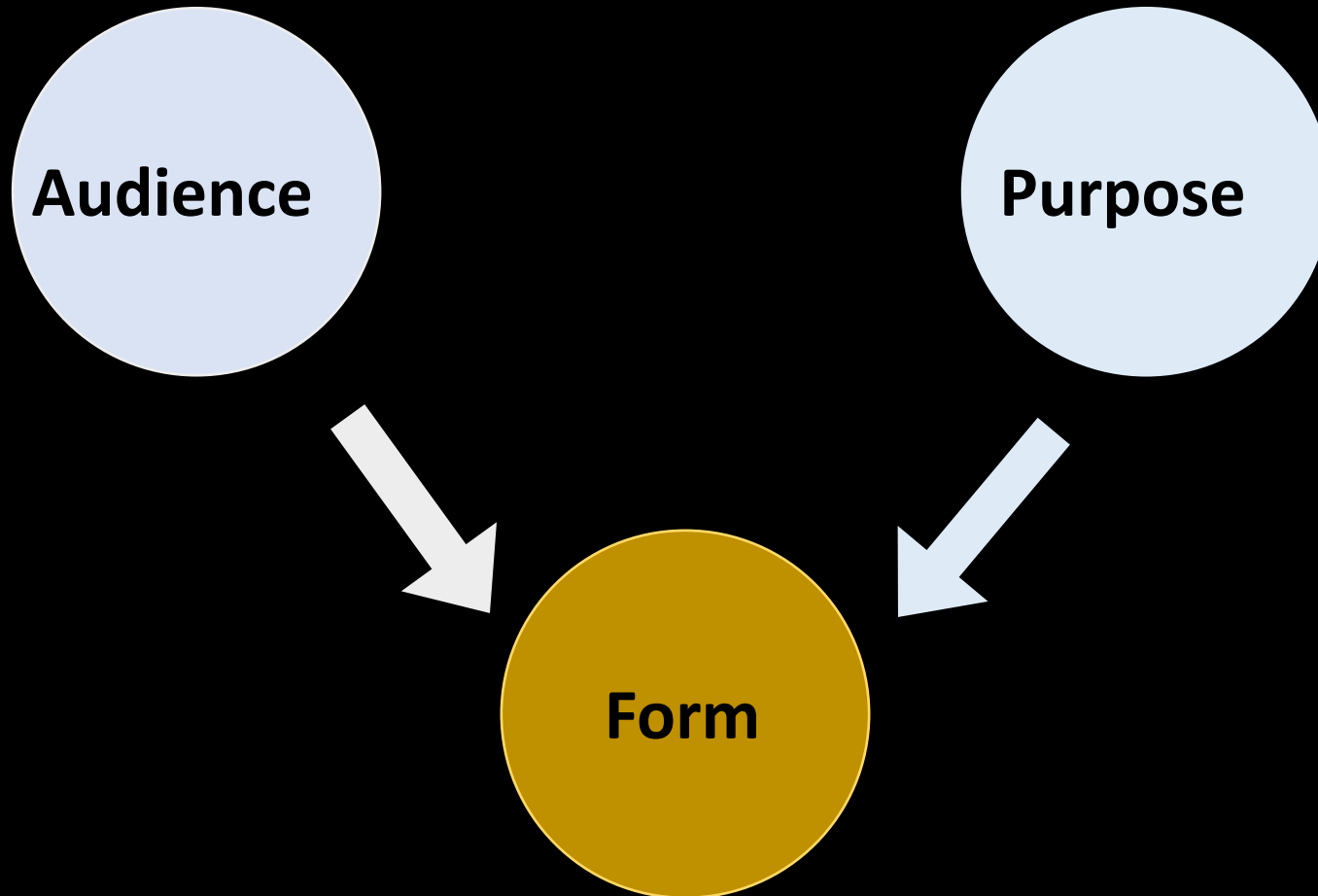
**Purpose**

**Why write the text?**

e.g. to inform, to persuade, to argue, to describe, etc.

**Form**





## GENRE & STYLE

e.g. formal versus informal style, vocabulary choice, order of information, level of detail, etc.



Lan,

**Audience**

**Purpose**

**Who is the text for?**

- The media, journalists
- Ultimately the public

**Form**





**Audience**

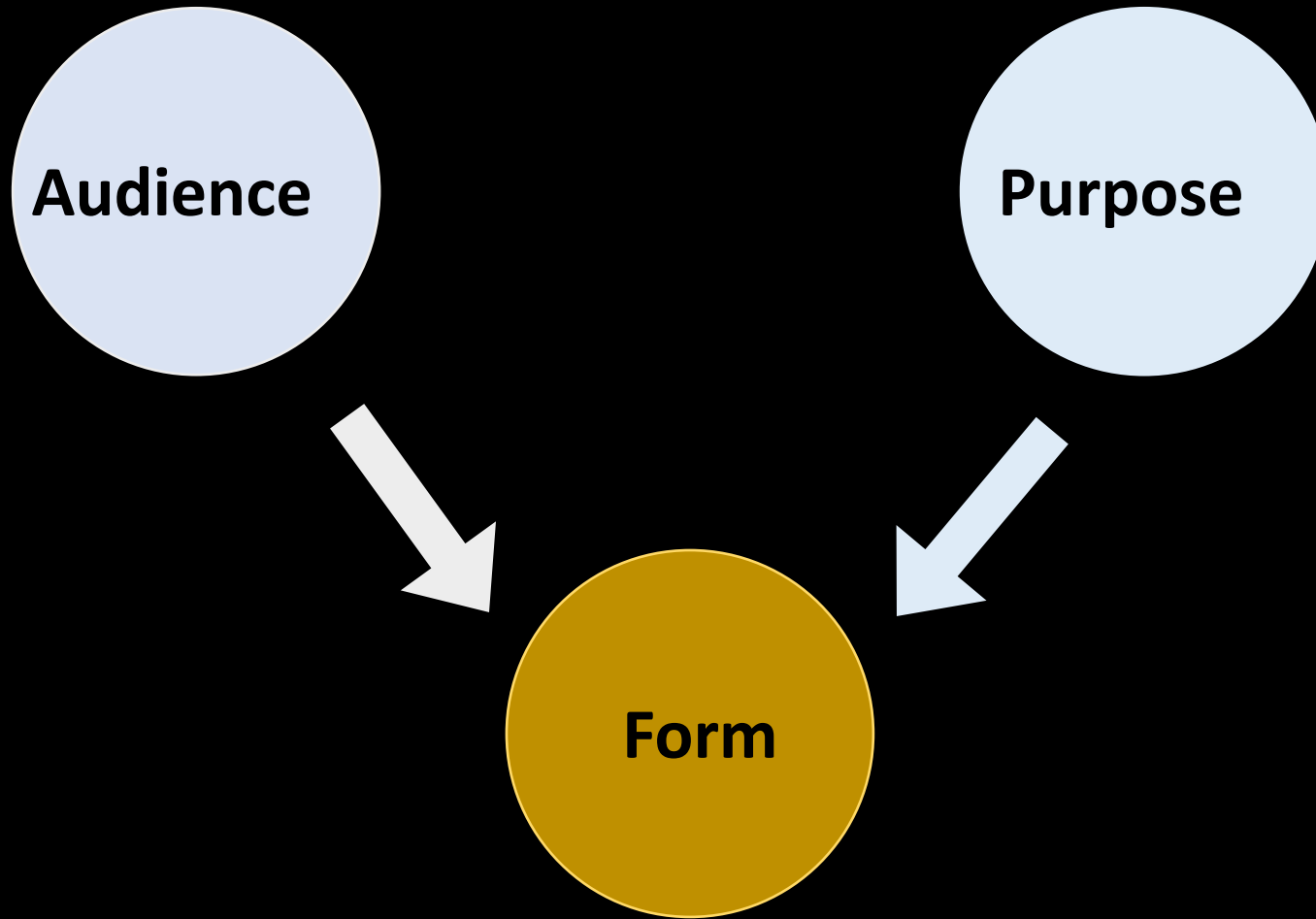
**Purpose**

**Why write the text?**

- Inform, describe and promote interest

**Form**





## GENRE & STYLE

Short and concise

Engaging, popular style,

Contains only expressions understandable to the public



Lan,

# What is an academic press release?

**A short, concise text, written in a popular style, summarizing the key results and conclusions of research.**

# What is an academic press release?

**A short, concise text, **written in a popular style**, summarizing the key results and conclusions of research.**

- **Easily accessible**
- **Engaging**
- **Uses terminology understandable to the general reader**

## Example

Microvesicle-derived microRNAs  
are important for intercellular  
signaling in tumorigenesis



Cancer cells communicate  
through a new molecular  
messenger

**BETTER**

# What to consider when writing your press release



the impact / significance for...



Have you  
answered the five  
W's?

- **Who?**
- **Where?**
- **What?**
- **When?**
- **Why?**



# The five W's

- **Who** conducted the research? Who can be contacted for further details?
- **Where** was the study conducted?
- **What** was the starting point of the study? **What** were the methods used? **What** were the key results? **What** are the possible applications of the results?
- **When** was the study conducted?
- **Why** was the research performed – what problem did it address? Was it commissioned by a particular company?

# First things first

- **Present the most important information first**
  
- **Cut anything irrelevant in the text**

Structure

Approved University of Maryland  
School or Department Logo



Example:

A. JAMES CLARK  
SCHOOL OF ENGINEERING

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## NEWS RELEASE

**FOR IMMEDIATE RELEASE: Month Date, Year**

**CONTACT:** Name, email, phone number

### HEADLINE OF PRESS RELEASE GOES HERE

**COLLEGE PARK, Md.** – The first paragraph should be the introduction and is your chance to capture a reader's attention. This paragraph should contain a summary of the key information in a few sentences, including answers to the five W's (who, what, where, when and why).

In the second paragraph, expand on the information given first paragraph and provide background information, including the news' significance and impact. If any of the five W's were not explained in the first paragraph, include them in the second paragraph.

"Include a quote from someone relevant to the release to add credibility to the story and establish experts. Quotes can help break up a press release and bring personality to the story. The individual(s) quoted should be available for media interviews, if possible."

Continue to add information that was not touched upon in the first paragraphs. Clarify and expand on the previous paragraphs and quote, and include any additional details that may be less central to the overall story, but are still important.

"If necessary, add an additional quote to expand further on the topics and ideas already mentioned."

In the final paragraph, conclude your story and include any information or links for readers to access additional information.

#### About [School/College/Department Name]

Include a standard paragraph that gives a brief overview of your school, college or department.

###

# Headline

- **Use a short and catchy headline describing the most important result or achievement of your research**

# Introduction (Paragraph 1-2)

- **Grab the reader's attention**
- **Summarize the essential message**
- **Give more details on the ideas in the headline**
- **Concisely point out the objectives and main findings of the research and the resulting advantages**

# Body of the press release

**Describe the background of your work**

**Include a quote from you or someone else to increase credibility**

**Expand on the most important findings and conclusions of your work, including:**

- **What are the implications of the results, and whom or what do they affect?**
- **How were the thesis objectives reached?**
- **Why is the thesis topic important right now?**

# Body of the press release

**Divide the text clearly into paragraphs**

**Write in complete sentences**

**Use clear and simple structures in the sentences, helping the reader grasp what you mean**



# Language

Write in a popular style (e.g., more like the *New Scientist* or the *Scientific American* than *Science* or *Nature*)

Contractions ok if not overused (**isn't** , **hasn't**, etc.)

The general 'you' ok in moderation: 'AI can use the veins on **your** hand to identify **you**'

Use lively language (not overly dry): 'Hydrogen is **widely touted** as a green fuel . . . But all too often it has a **dirty secret**.'

Avoid slang expressions and colloquialisms

**Proofread!**

# Further details

**At the end of the press release, give your contact information so that the media has a possibility to interview you for further details:**

- **Your full name**
- **Your degree and study program & major subject**
- **Email address**
- **Your home organization (Aalto University, School of Chemical Engineering) and possible other contacts**
- **Details on the availability of the thesis (e.g. publication date, website)**

- Press release
- VS. Abstract

<b>Press release</b>	<b>Abstract</b>
Written for a general audience	Written for an expert audience
Popular style	Formal academic style
Structure: answers the five W's	Structure: mimics that of the thesis/ research paper
Includes quotes	No quotes
Terminology understandable to a layman or terms explained	Expert, field specific terminology
No list of key words	List of key words

# Examples & Discussion

# How sensitive can your quantum detector be?

A new device measures the tiniest energies in superconducting circuits, an essential step for quantum technology

Quantum physics is moving out of the laboratory and into our everyday lives. Despite the big headline results about quantum computers solving problems impossible for classical computers, technical challenges are standing in the way of getting quantum physics into the real world. New research published in *Nature Communications* from teams at Aalto University and Lund University hopes to provide an important tool in this quest.

One of the open questions in quantum research is how heat and thermodynamics coexist with quantum physics. This research field, “*quantum thermodynamics*”, is one of the areas Professor **Jukka Pekola**, the leader of the QTF Centre of Excellence of the Academy of Finland, has worked on in his career. “This field has up to now been dominated by theory, and only now important experiments are starting to emerge” says Professor Pekola. His research group has set about creating quantum thermodynamic nano-devices that can solve open questions experimentally.

Quantum states – like the qubits that power quantum computers – interact with their surrounding world, and these interactions are what quantum thermodynamics deals with. Measuring these systems requires detecting energy changes so exceptionally small they are hard to pick out from background fluctuations, like using only a thermometer to try and work out if someone has blown out a candle in the room you’re in. Another problem is that quantum states can change when you measure them, simply because you’ve measured them. This would be like putting a thermometer in a cup of cold water making the water start to boil. The team had to make a thermometer able to measure very small changes without interfering with any of the quantum states they plan to measure.

Doctoral student **Bayan Karimi** works in QTF and Marie Curie training network *QuESTech*. Her device is a calorimeter, which measures the heat in a system. It uses a strip of copper about one thousand times thinner than a human hair. ‘Our detector absorbs radiation from the quantum states. It is expected to determine how much energy they have and how they interact with their surroundings. There is a theoretical limit to how accurate a calorimeter can be, and our device is now reaching that limit’, says Karimi.

The experimental part of the work has been performed at [OtaNano national research infrastructure](#) for micro, nano and quantum technologies in Finland. Besides Pekola and Karimi, the team consists of Dr Fredrik Brange and professor Peter Samuelsson from Lund University. The research is published in *Nature Communications* on 17 January and you can access the full paper here <https://dx.doi.org/10.1038/s41467-019-14247-2>

Headline?  
Introduction?  
Body?  
Language?  
Further details?  
Other observations?

## People



**Jukka Pekola**  
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**Bayan Karimi**  
Doctoral student  
[bayan.karimi@aalto.fi](mailto:bayan.karimi@aalto.fi)



Questions? Comments?

# Project funding proposal

Which text is the most effective and why?

Text A



Text B



Text C





# Project funding proposal

What makes TEXT A the most effective?

- First sets the scene for the problem (relevance)
- Then introduces the problem
- Provides a solution for the problem
- Evaluates the solution



*Problem-solution pattern*



# The Toulmin-Zappen model (Problem-solution pattern)

Arguably, the most important pattern of organization in academic writing.

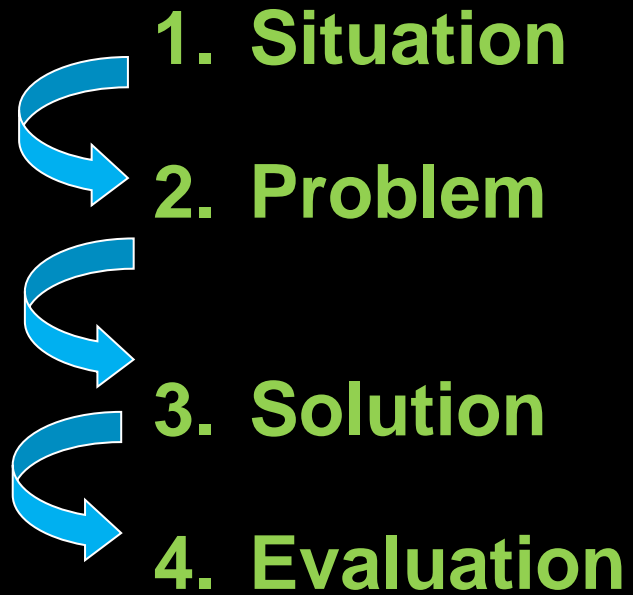
**This model and its variants are commonly found in:**

- argumentative and evaluative critical thinking
- Bachelor, Master's and Doctoral thesis introductions and abstracts
- research articles
- research reports and funding proposals



# The Problem-Solution Pattern

## Four rhetorical moves

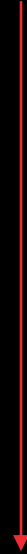


**SITUATION: What is the current situation?**

**PROBLEM: What is wrong with the current situation?**

**SOLUTION: What is the solution to the current problem?**

**EVALUATION: What makes this a good solution?**



## Situation

Importance?  
Relevance?

- What is the current situation?
- Why is the topic important for this reader?

## Problem

Causes?  
Consequences?  
Past problem?  
Criteria for solving?

- What is wrong with the current situation?
- What is needed / lacking?

## Solution

What are its features?  
How does it work?

- What is your solution?

## Evaluation

How effective is it?  
Meet criteria?

- Is this a good solution?
- Why?

**Situation**

**Importance, relevance**

*major, important, popular, common, and many*

**Problem**

**Causes, consequences, past solutions, ...**

**contrast** (*However, despite, although, but*),

**negative** (*limited, few, little, no, not, none*),

**synonyms** (*danger, drawback, disadvantage, weakness, need, shortcoming, obstacle*).

**Solution**

**Features? How does it work?**

**nouns** *solution, answer, approach, strategy, improvement*

**verbs** *solve, address a problem, work out, develop*

**causative connectors** *therefore, as a result, thus*

**Evaluation**

**How effective? Meet the criteria?**

**nouns** *benefit, advantage*

**verbs** *provide, offer, enable, allow*

**adjectives** *effective, efficient, reliable, safe, useful*

# Think about the introduction to your press release

- What is the situation?
- What is the problem (or research gap)?
- What is your proposed solution?
- How effective is that solution?

Discuss with a partner



Begin writing the introduction to your report using the problem-solution pattern





# Homework

- Write headline and introduction to press-release on Thematic Studio I project: 1-2 paragraphs containing problem-solution pattern and answers to the Five Ws and submit it to MyCourses by Thursday morning. Bring to class for peer review.
- Read key grammar terms handout

