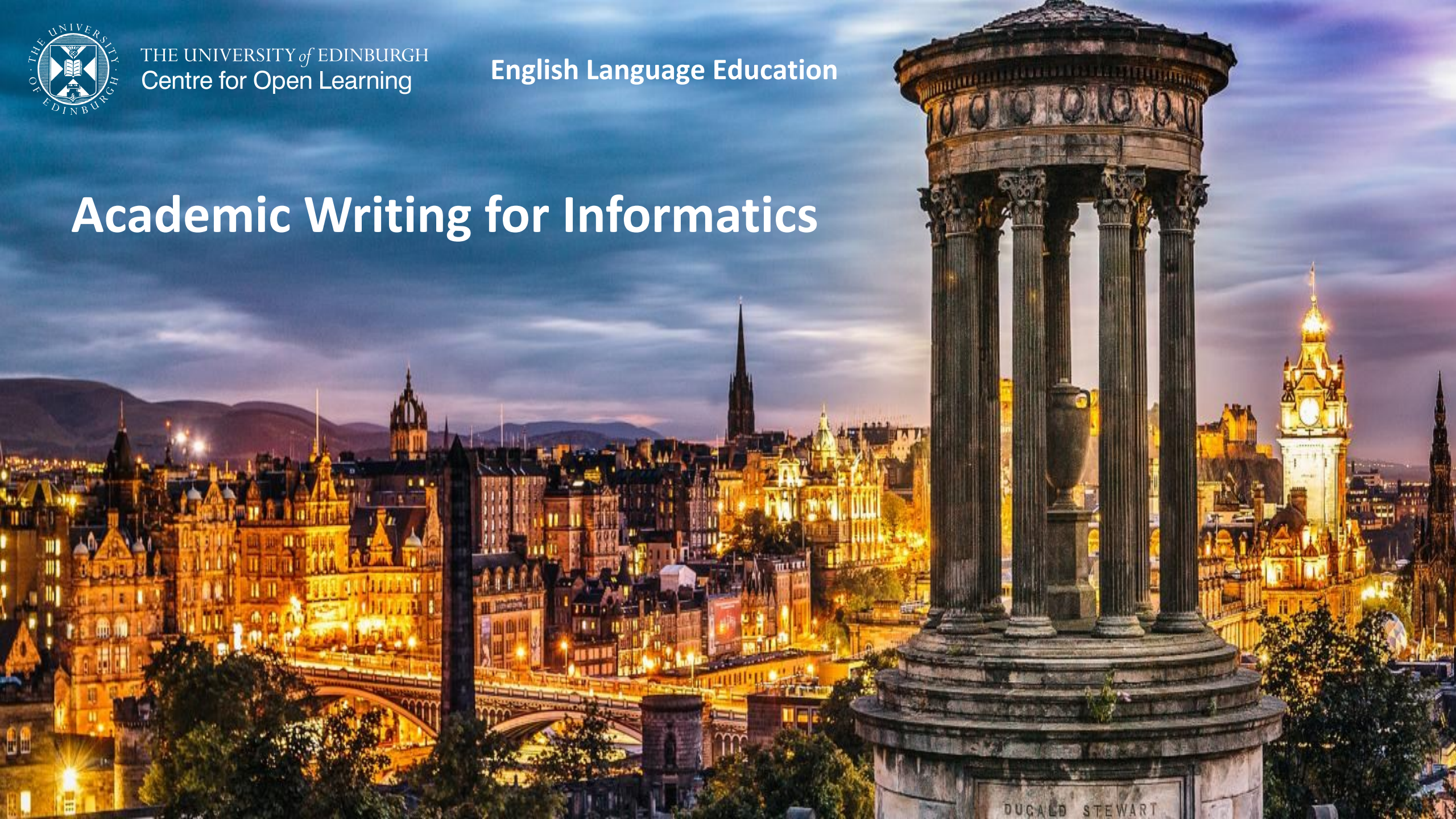THE UNIVERSITY *of* EDINBURGH
Centre for Open Learning

English Language Education

Academic Writing for Informatics

I was here!

Just click 'Yes' and submit. Thanks!

https://forms.office.com/e/SUSzvEYsJS

Four **KEY** points

English is a **writer-responsible language**. This means

- it is **your** job to make your meaning clear to your reader

- you need to provide explicit transition **between ideas within paragraphs/chapters**, and **between each paragraph/section**.
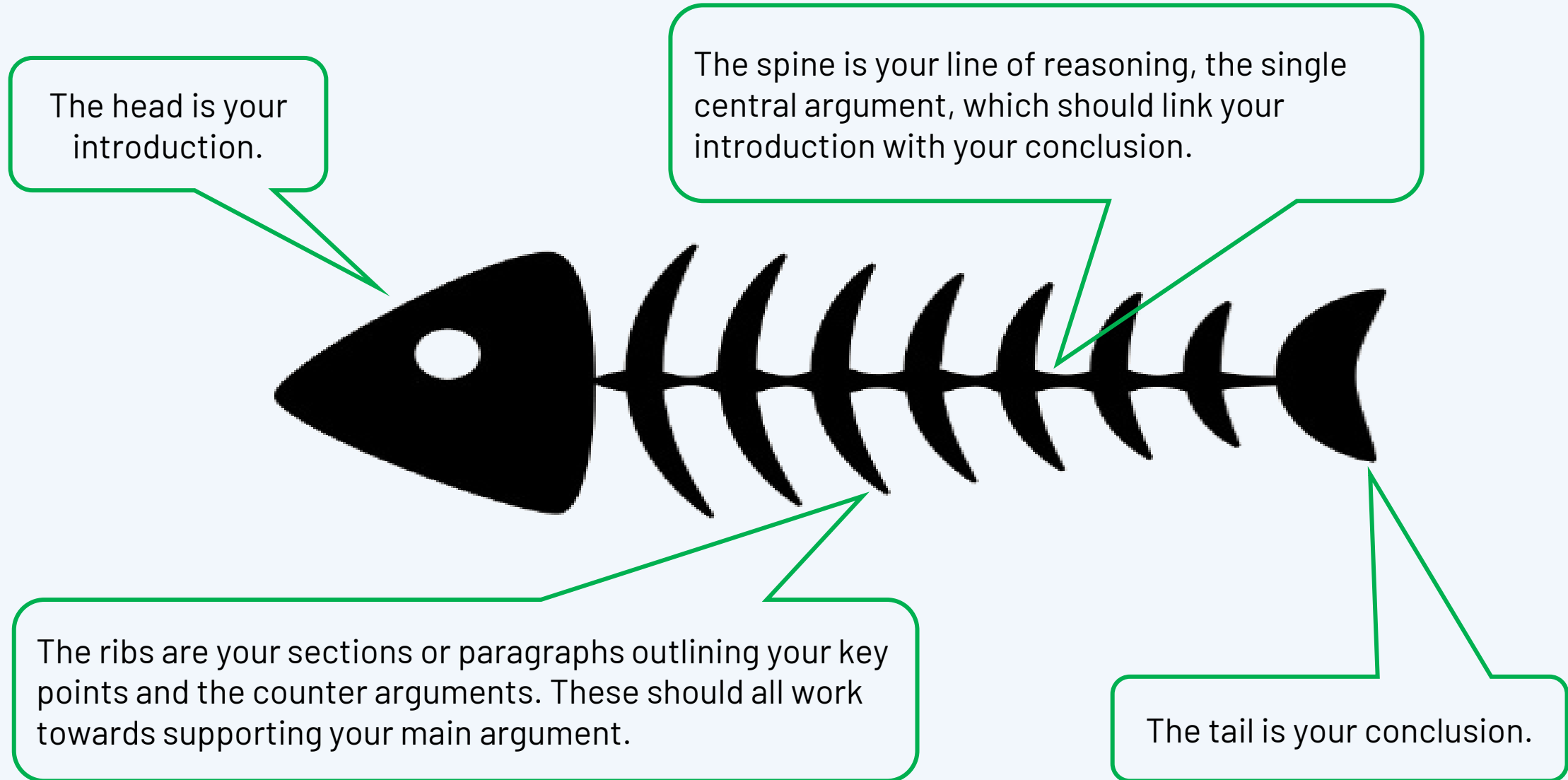
When deciding what to write, ask yourself the **right** question

- Ask "What does my **reader** need to know?"
(not "What should **I** write about?")

Remember **your voice**. That is what the **marker** is looking for.

Last but not least: **Writing** is **Thinking**, so start writing as soon as you can.
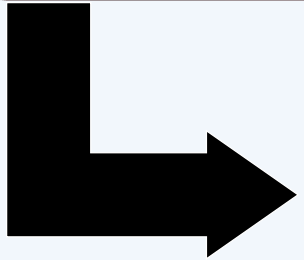
Developing your argument: Visualizing the development of your argument

The head is your introduction.

The spine is your line of reasoning, the single central argument, which should link your introduction with your conclusion.

The ribs are your sections or paragraphs outlining your key points and the counter arguments. These should all work towards supporting your main argument.
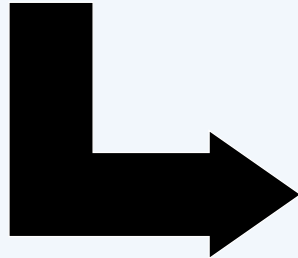
The tail is your conclusion.

Criticality

Describe
- What is the text about
- What is the author's aim?
- What evidence does it give?

Analyse
- How reliable is the evidence?
- How do the parts fit into the whole?
- What alternatives are there and how do they compare?

Evaluate
- What do I think about this?
- What are the implications?
- How is this relevant to my argument and why is it important?

Feedback from previous submissions

- Essential to have a good understanding of the assignment task and of how to demonstrate that you have fulfilled the assessment criteria

- No significant problems with language (but watch formality slips), though narrative flow was sometimes disrupted by loss of focus, cohesion and lack of precision

- Mostly clearly-structured, with effective use of Section and Sub-section headings but transitions from one section to another were sometimes too abrupt

- But, relationships between ideas were at times unclear

- In some cases there seemed to be a lack of a hypothesis or it wasn't clear at least

- At times, overly descriptive: lack of critical balance and largely summarising the literature with little or at best superficial levels of evaluation

- Referencing - some introductions and/or large sections of text had no sources where you would expect them. When discussing a number of sources organised around a theme, make sure you are clear which source you are referring to.

In sum …

- **Managing expectations**: including structure, order of ideas & length/balance of sections
- **Style**: consistency of tone & objective (keep emotions out of it: *distressing, uncomfortable*)
- **Criticality**: YOUR voice, choice of verbs when citing sources, description vs analysis & evaluation
- **Claims**: evidenced with examples and/or citations, appropriately hedged
- **Clarity**: define terms, explain your ideas, leave no gaps & make no assumptions about what your reader knows
- **Sources**: currency, accuracy & consistency of referencing
- **Revising**, **editing** & **proofreading**

- You have high scoring IPP examples: look at them and use them to help you.

What makes academic writing 'academic'?

Clarity

1.   Explicitness & Accuracy

2.   Text structure & Paragraphing

3.   Coherence and cohesion

4.   Logical information flow

Explicitness and Accuracy

- In academic writing your task is to present clear arguments and report information accurately and objectively.

- Write down each stage in your **reasoning** as clearly as possible. Don't rely on implication or suggestion – these may be interpreted in a different way or not understood at all.

- Explain <u>all</u> links between ideas clearly. Be specific & clear about **reasons**. Make careful use of appropriate linking techniques.

- Use concrete, practical **examples** to illustrate general or abstract points. If you don't, your ideas may seem too theoretical or vague. The converse is also true, where you remain focused on the practical examples and lack the theoretical underpinning. You need a balance.

Wave approach to writing

1. More abstract concepts/theories & principles (blue sky!)

2. More general discusssion of insights, patterns/practices

3. More specific contexts, concrete examples, etc.

General

Specific

Paragraphing and Text structure

# Critically evaluating your sources: Writer's voice

Remember YOUR VOICE

1. Make your unattributed assertion at the start of paragraphs
followed by evidence, findings, arguments from your sources.

2. Explicitly tell your reader what the connections are between
sources.

3. Explicitly tell your reader what the connections are between those
sources and your main assertion.

4. Show your strong agreement/disagreement/cautious
agreement/etc. with the sources.

5. Include "so what" summary sentences (evaluative sentences) at
the end of paragraphs.

Taken by Andy Morffew
https://www.flickr.com/photos/andymorffew

Developing your argument: Paragraphing
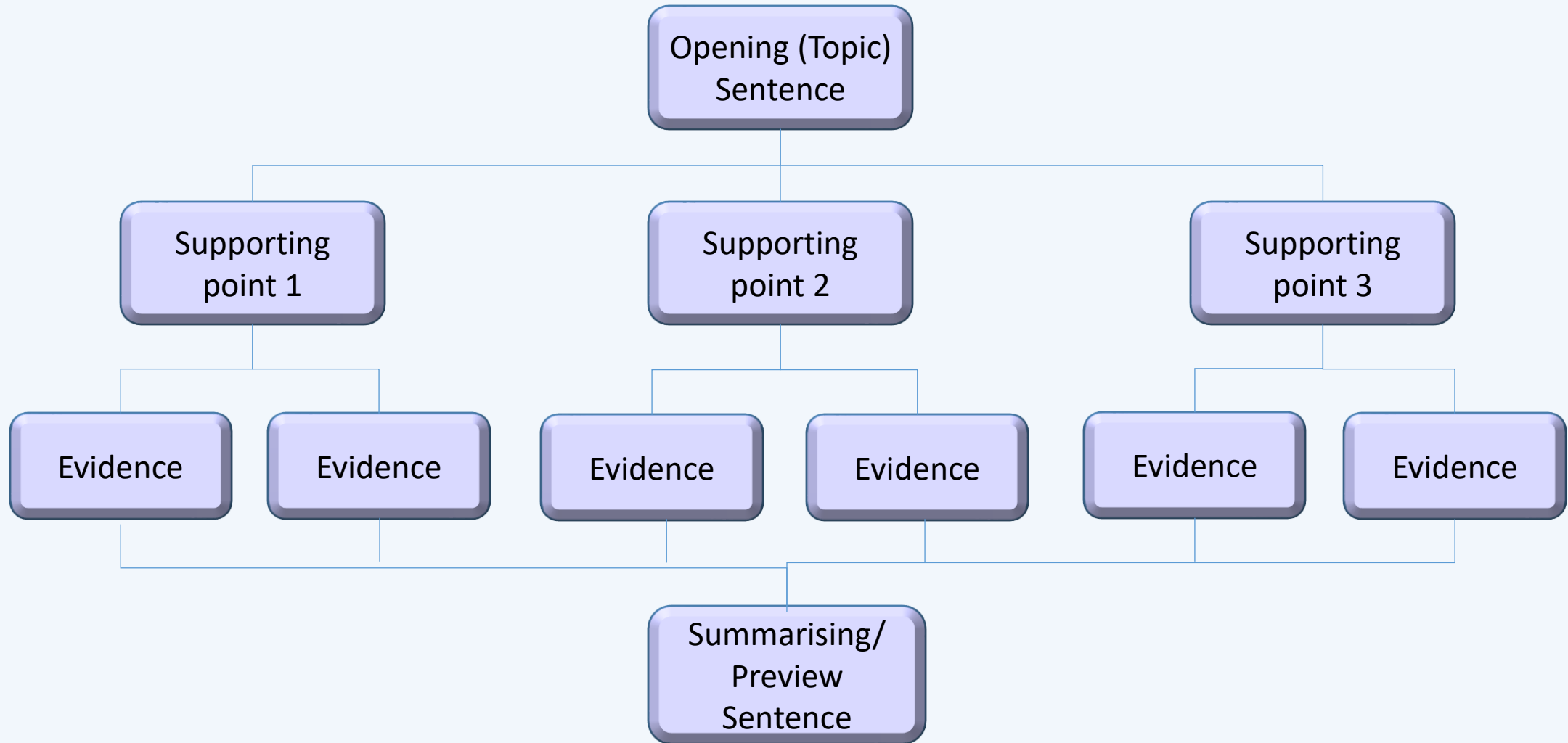
Developing your argument: Colour coding paragraphs

Technological innovations, which have seen cars become increasingly connected, have facilitated the creation and ecosystem for new services to exist. Services such as on demand transportation and greater emphasis on in-car-infotainment[1] require new business models to be developed to accompany them (Athanasopoulou, et al, 2019). While these services currently exist within a halfway-house solution, in order to be exploited to their full potential, a shift to an as-a-service model is necessary. Santos et al. (2009) defines business model innovation as the "reconfiguration of activities in the existing business model of a firm that is new to the product/service market in which [they] operate." This definition is important in relation to Chesbrough and Rosenbloom's (2002) work which states the need for new innovations to have an accompanying competent business model. For businesses to be successful, there needs to be a substantial reconfiguration of the business model to compete sufficiently and fully exploit technological developments, which are currently just seen as features of the overall product and not unique services in their own right.

B159992

Must every paragraph have a 'topic sentence'?

- Not necessarily (you may break up a complex or extended discussion point into a series of related paragraphs for improved clarity)

- You start a new paragraph when you move on to a new (sub)topic / point, so you need to make the change of topic or focus <u>clear</u> to your reader.

- An effective way to do this is to begin the new paragraph with a sentence announcing the new topic / point or end the previous paragraph with a preview of the next.

- However you do it, you must make the link clear to the reader.

Topic sentences & linking between paragraphs

The success of website fingerprinting attacks have led to the techniques being applied to other domains too. Encryption of HTTP traffic has been around since the early 2000s but encryption of DNS (Domain Name System) traffic has only recently started to become mainstream with two competing protocols, DNS over HTTPS and DNS over TLS. These protocols are also vulnerable to fingerprinting attacks and the current state of the art was developed by Troncoso et al. who used a Random Forests classifier to obtain classification accuracies above 90% [17]. However to our knowledge deep learning techniques have not been tried on encrypted DNS, and while there are some defenses developed to evade fingerprinting attacks such as EDNS(0) padding, they are not at the same level of sophistication or effectiveness as WTF-PAD or Walkie Talkie [17].

Another area of application is fingerprinting smartphone apps using traffic analysis of app network communications. Taylor et al. used machine learning techniques to identify …

Not necessarily …

The underground economy was a big problem for the authorities long before cryptocurrencies, or even the internet, came into the scene. Yet, it has been claimed that cryptocurrencies have radically influenced the black market landscape by "enabling black e-commerce". [6] **Darknet markets**, which in their majority run on cryptocurrencies, give people the opportunity to purchase illegal goods, such as drugs or weapons, from the comfort of their home, without having to reveal their identity.

Silk Road (2011 - 2013) was the first online marketplace to rely on Bitcoin as a form of payment, but countless others have followed its example ever since, ensuring the overall resilience of online illegal trade, despite the frequent takedowns by law enforcement agencies all over the world. In fact, 2019 marked the year of the highest participation in darknet markets since their creation, resulting in a revenue of over USD 790M worth of cryptocurrency, while at the same time the share of cryptocurrency transactions associated with these markets doubled since 2018. [3]

In summary:

- One paragraph should focus on one issue

- Begin each paragraph by stating the issue/point you will discuss.

- Develop, explain and discuss (i.e., support) that point.

- Evidence to back up what you are arguing.

- Conclude the paragraph by explaining how this issue/point/argument is relevant to answering the research question.

- Link to the next paragraph.

Coherence and cohesion

- **Coherence** refers to the overall connection between ideas in your writing. It is achieved through:
  - clear argument
  - logical structure
  - use of cohesive devices

- **Cohesion** refers to the use of **cohesive devices** to connect sentences together grammatically. Cohesive devices are the 'glue' that sticks your ideas together, and helps you to achieve **coherence**, making the writing 'flow' for your reader.

Example cohesive devices

There are many different types of cohesive devices, including:

- **Referencing**
  - pronouns such as **s/he**, **her/him**, **it**, **this**, **that**, **these**, **those** adverbs such as **here** & **there**

- **Lexical cohesion**
  - Word families: **economy**, **economic**, **economically**, **economies**, **economists**, **uneconomical**
  - Related words: **writing**, **writer**, **reader**, **main ideas**, **dissertation**, **words**
  - Repetition
  - Synonyms, antonyms

Example cohesive devices

There are many different types of cohesive devices, including:

- **Conjunctions** or **linkers** and **signalling phrases**
    - **However**, **for example**, **as a consequence of**, **firstly**, **furthermore**, **in spite of**, **on the other hand**

- **Substitution**
    - phrases such as *(**not**)* **doing so** ; e.g. **people**/**majority**

All work should be referenced appropriately. Failure **to do so** will result in a grade of zero for the assignment.

234 patients were surveyed about their clinical experience. **The majority** expressed total satisfaction with the service they received.

Quickly read the description about the process of making saffron on the next slide.

Q: Did you find it easy to read?

Q: Why?

Saffron is a spice comprised of reddish-brown threads that, when used in cooking, impart a golden colour and earthy, subtly sweet flavour profile to a variety of dishes. The spice is harvested from crocus sativus, a flower commonly referred to as the saffron crocus. Saffron refers to the threads, or stigmas, inside the flower. The crop is gathered once a year, from mid-October to mid-November. The most crucial task during the harvest is separating the red-coloured threads from the flower, which is the essence of saffron spice. Each thread consists of three delicate strands, making the harvesting process require meticulous caution and care. The strands are sun-dried, a delicate step where they must be evenly spread on a white sheet. Subsequently, they are preserved in a cotton cloth to ensure continuous air circulation, thus preventing any moisture and rot. Saffron is grown in various parts of the world, including Kashmir, which is well-known for producing the darkest variety known as Mongra, a single strand of which is sufficient to infuse an entire dish with its luxurious aroma and flavour.

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Logical Information flow

What is information flow?

Another important consideration for successful communication is **flow** – moving from one statement in a text to the next. Naturally, establishing a **clear connection** of ideas is important to help your **reader follow the text**.

Swales and Feak (2004) *Academic Writing for Graduate Students*

Sentence structure & linking

In English sentences, old (or given) information usually comes before new information.

topic (**theme**) ➡️ **comment** (**rheme**)

known
old information ➡️ unknown
new information
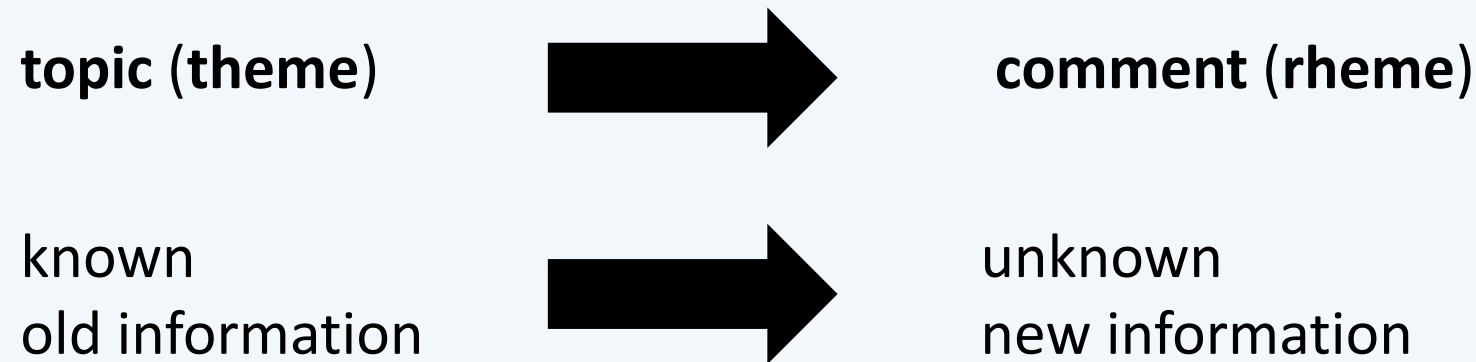
- The **theme** is what you are writing about - it is *old*, *known* or *given* information.

- The **rheme** is what you are saying about the **theme** - it is *new* information, what you want to tell your reader.

Sentence structure & linking

Can you identify the **theme** (topic) and **rheme** (comment)?

1. The M8 goes from Edinburgh to Glasgow.

2. The motorway from Edinburgh to Glasgow is called the M8.

Sentence structure & linking

Identify the **theme** (topic) and <u>rheme</u> (comment):

1. **The M8** <u>goes from Edinburgh to Glasgow</u>.

    [**R:** These two cities have long been rivals.]

    [**T:** It was constructed in 1965.]

2. **The motorway from Edinburgh to Glasgow** <u>is called the M8</u>.

    [**R:** This numbering system for motorways has an interesting history.]

    [**T:** It was constructed in 1965.]

Information flow in paragraphs

Paragraph units are most effective when they either

1   discuss a single topic; or

2   discuss a series of related topics that build on one another. You can fulfil reader expectations by maintaining a **logical flow** of grammatical subjects in a paragraph.
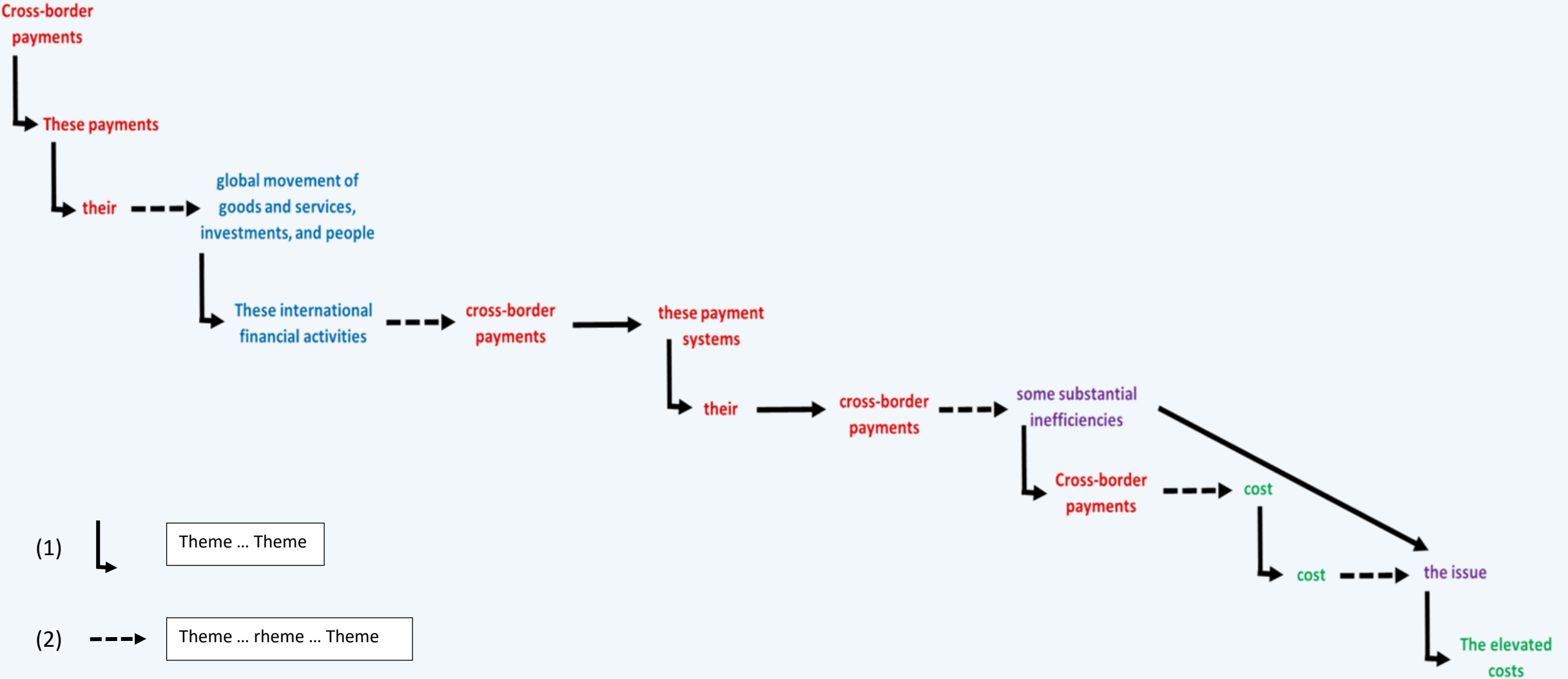
There are two main ways of doing this:

1   Maintain a common subject throughout a one-topic paragraph

2   Shift the subject appropriately according to the story

Example

Cross-border payments have emerged as a fundamental pillar of the global economy. These payments facilitate the transfer of funds from a sender in one jurisdiction to a beneficiary in a different jurisdiction [1]. In recent years, their economic importance has grown in conjunction with the acceleration in the global movement of goods and services, investments, and people [2]. These international financial activities depend extensively on wholesale cross-border payments to enable the transfer of approximately $25.9 trillion1 annually, positioning these payment systems as global economy's arteries. Despite their vital roles, cross-border payments continue to exhibit some substantial inefficiencies. Cross-border payments are comparatively less efficient than domestic payments in four primary areas: cost, speed, accessibility, and transparency [3]. In terms of cost, the issue encompasses multiple components, such as transaction fees, compliance costs, foreign exchange (FX) conversion rates and fees, and liquidity costs for prefunding [3, 4]. The elevated costs are an immediate consequence of implementing the correspondent banking [3, 5] mechanism which involves sequential payments processing through several intermediaries from several jurisdictions.

Example

Cross-border payments have emerged as a fundamental pillar of the global economy. These payments facilitate the transfer of funds from a sender in one jurisdiction to a beneficiary in a different jurisdiction [1]. In recent years, their economic importance has grown in conjunction with the acceleration in the global movement of goods and services, investments, and people [2]. These international financial activities depend extensively on wholesale cross-border payments to enable the transfer of approximately $25.9 trillion1 annually, positioning these payment systems as global economy's arteries. Despite their vital roles, cross-border payments continue to exhibit some substantial inefficiencies. Cross-border payments are comparatively less efficient than domestic payments in four primary areas: cost, speed, accessibility, and transparency [3]. In terms of cost, the issue encompasses multiple components, such as transaction fees, compliance costs, foreign exchange (FX) conversion rates and fees, and liquidity costs for prefunding [3, 4]. The elevated costs are an immediate consequence of implementing the correspondent banking [3, 5] mechanism which involves sequential payments processing through several intermediaries from several jurisdictions.

Cross-border payments

→ These payments

→ their ⇢ global movement of goods and services, investments, and people

→ These international financial activities ⇢ cross-border payments → these payment systems

→ their → cross-border payments ⇢ some substantial inefficiencies

→ Cross-border payments ⇢ cost

(1) → | Theme … Theme |

(2) ⇢ | Theme … rheme … Theme |

cost ⇢ the issue

→ The elevated costs

Which of these two texts is more cohesive (i.e., has better information flow) ?

Text A

Attracting customers to buy your products and services needs a great deal of research and planning to ensure the money you invest in gaining customers pays off. This is normally achieved through market research and involves finding more about the people you hope to sell to. Armed with this information you can then formulate an effective plan of action based on your evidence. Once you are aware of the needs of your potential customers you need to examine your product in detail, fix a suitable price which will help your product sell, ensure you choose the correct method of distribution and select an appropriate promotion to attract your audience. This is known as the marketing mix and can help your business to spend money wisely with the best results.

Text B

Attracting customers to buy your products and services needs a great deal of research and planning to ensure the money you invest in gaining customers pays off. Firstly, there is market research and involves finding more about the people you hope to sell to. Secondly, formulate an effective plan of action based on your evidence. Furthermore, it is important to examine your product in detail. Moreover, you should fix a suitable price which will help your product sell, ensure you choose the correct method of distribution and select an appropriate promotion to attract your audience. So this is known as the marketing mix and in summary it can help your business to spend money wisely with the best results.

Which of these two texts is more cohesive?

Text A
Attracting customers to buy your **products** and services needs a great deal of **research** and planning to ensure the money you invest in gaining customers pays off. **This** is normally achieved through **market research** and involves finding more about the people you hope to sell to. Armed with **this information** you can then formulate an effective plan of action based on your **evidence**. Once you are aware of the **needs** of your potential customers you need to examine your **product** in detail, fix a suitable price which will help your **product** sell, ensure you choose the correct method of distribution and select an appropriate promotion to attract your audience. **This** is known as the marketing mix and can help your business to spend money wisely with the best results.

Text B
Attracting customers to buy your products and services needs a great deal of research and planning to ensure the money you invest in gaining customers pays off. **Firstly**, there is market research and involves finding more about the people you hope to sell to. **Secondly**, formulate an effective plan of action based on your evidence. **Furthermore**, it is important to examine your product in detail. **Moreover**, you should fix a suitable price which will help your product sell, ensure you choose the correct method of distribution and select an appropriate promotion to attract your audience. **So this** is known as the marketing mix and **in summary** it can help your business to spend money wisely with the best results.

Quick response survey

Please take a couple of
moments to answer this
really short survey
about this lecture – just
4 questions!

https://forms.office.com/e/hzX06j6Cij

Feedback on a sample of your PP: April 6th to 15th

- Formative feedback on your academic writing, NOT the discipline-specific content.

- Limited capacity (tbc), so strictly first come, first served.

- One sample of your PP up to 1000 words max (you can send the whole PP, but highlight the specific section/s you want feedback on).

- It's important to provide a focus for the feedback, otherwise we will just provide general feedback on what we see. So, what do you want feedback on? *Effectiveness of information flow or integration of sources & synthesising? Is my voice clear? Etc.*

- This submission is insulated and thus will have no impact on any subsequent submission to Informatics for marking.

- Details will follow nearer the time on Learn.

Addendum

- Revising, editing & proofreading
- Language
- Writing your abstract
- Help available

Revising

Revising
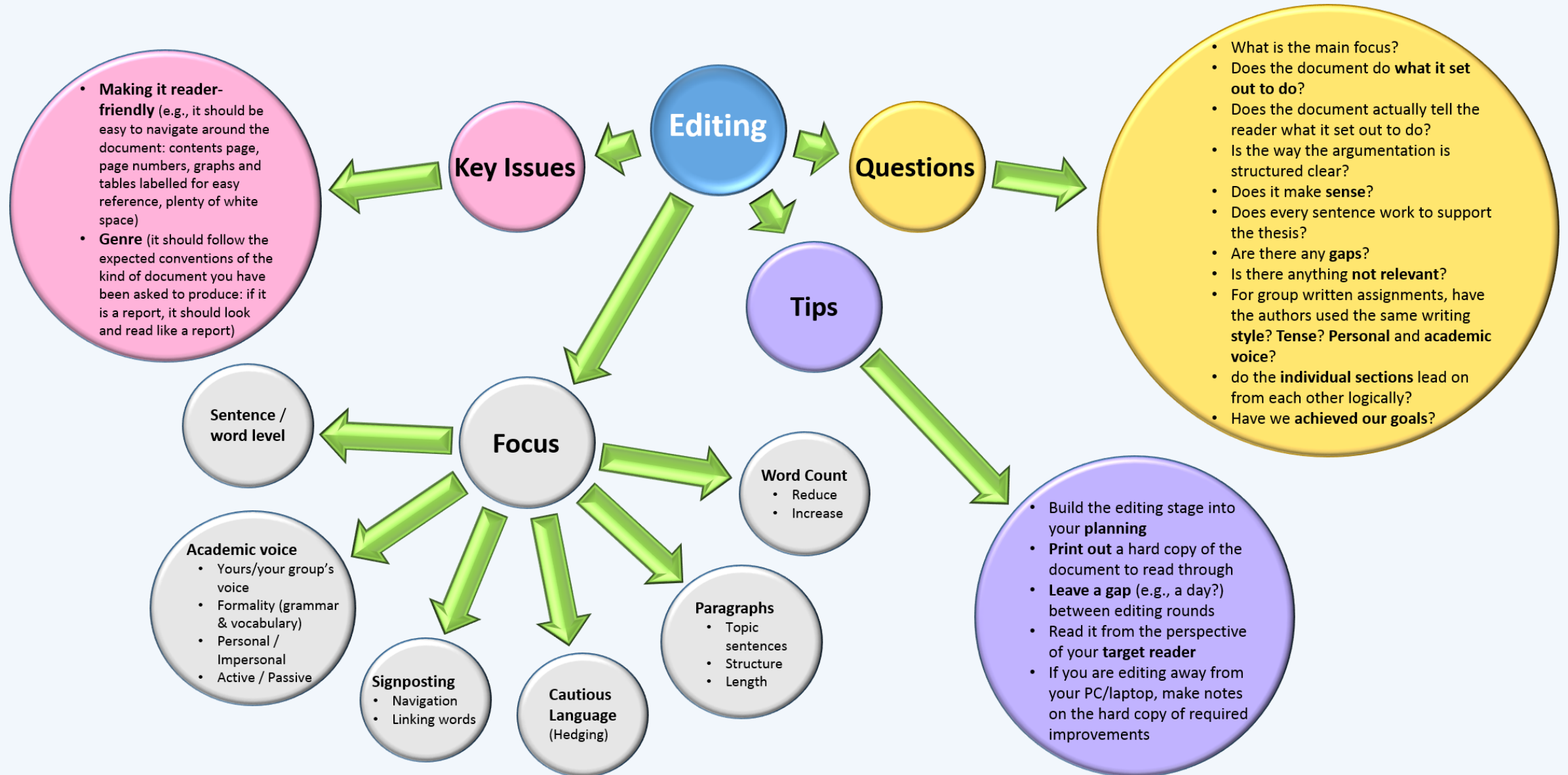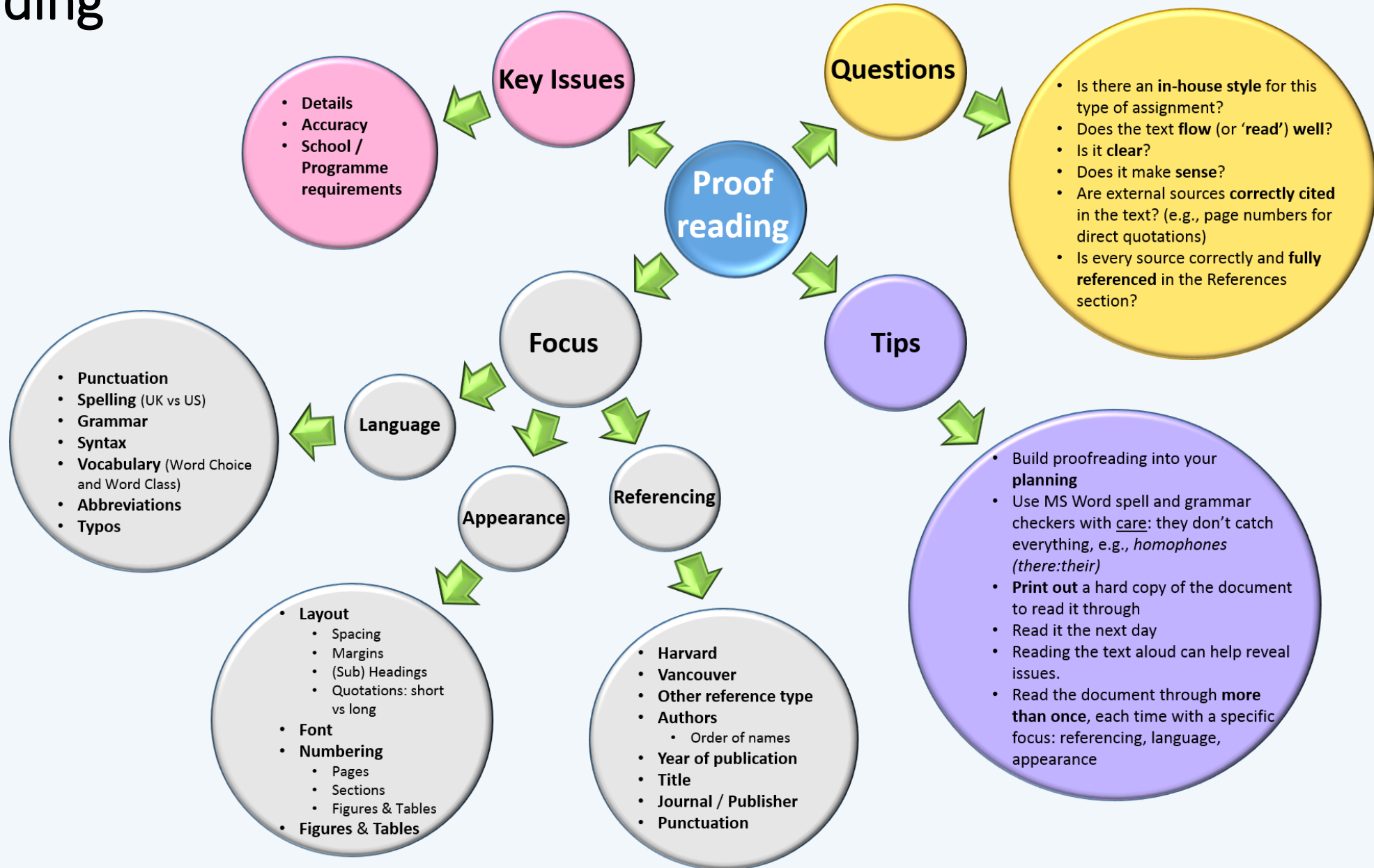
Key Issues

- **Content**
- **Relevance**
- **Argument**
- **Structure**
- **Criticality**
  - Description
  - Commentary
  - Analysis
  - Evaluation

Focus

- **Re-thinking**
- **Re-writing**
- **Cutting / Adding sections**
- **Redundancies**
  - Identify and remove unnecessary duplication, explanation, and interesting but irrelevant material
- **Reorganising**
  - Spacing
- **Introduction**
  - Aims
  - Thesis
  - Outline
  - Scope
- **Main body**
- **Conclusion**
- **Executive summary**

Tips

- Build revision into your **planning**
- **Print out** a hard copy of the document to read through
- Read it the next day
- Revise ideas and structure before language issues and stylistic differences
- **Reverse outlining**
  - Use headings
  - Highlight topic sentences

Questions

- Does the document do **what it set out to do**?
- Does the document actually tell the reader what it set out to do?
- Is there a **balance** between description and commentary, analysis and evaluation?
- Is it **clear**?
- Does it make **sense**?
- Are the ideas **linked** and the sequence **logical**?
- Are there any **gaps**?
- Is there anything **not relevant**?
- Does the conclusion **follow** from the body?
- Have we **achieved our goals**?

Editing

Editing

Key Issues

- **Making it reader-friendly** (e.g., it should be easy to navigate around the document: contents page, page numbers, graphs and tables labelled for easy reference, plenty of white space)
- **Genre** (it should follow the expected conventions of the kind of document you have been asked to produce: if it is a report, it should look and read like a report)

Questions

- What is the main focus?
- Does the document do **what it set out to do**?
- Does the document actually tell the reader what it set out to do?
- Is the way the argumentation is structured clear?
- Does it make **sense**?
- Does every sentence work to support the thesis?
- Are there any **gaps**?
- Is there anything **not relevant**?
- For group written assignments, have the authors used the same writing **style**? Tense? **Personal** and **academic voice**?
- do the **individual sections** lead on from each other logically?
- Have we **achieved our goals**?

Tips

- Build the editing stage into your **planning**
- **Print out** a hard copy of the document to read through
- **Leave a gap** (e.g., a day?) between editing rounds
- Read it from the perspective of your **target reader**
- If you are editing away from your PC/laptop, make notes on the hard copy of required improvements

Focus

Sentence / word level

Word Count
- Reduce
- Increase

Academic voice
- Yours/your group's voice
- Formality (grammar & vocabulary)
- Personal / Impersonal
- Active / Passive

Signposting
- Navigation
- Linking words

Cautious Language (Hedging)

Paragraphs
- Topic sentences
- Structure
- Length

Proofreading

Proof reading

Key Issues
- **Details**
- **Accuracy**
- **School / Programme requirements**

Questions
- Is there an **in-house style** for this type of assignment?
- Does the text **flow** (or 'read') **well**?
- Is it **clear**?
- Does it make **sense**?
- Are external sources **correctly cited** in the text? (e.g., page numbers for direct quotations)
- Is every source correctly and **fully referenced** in the References section?

Focus

Language
- **Punctuation**
- **Spelling** (UK vs US)
- **Grammar**
- **Syntax**
- **Vocabulary** (Word Choice and Word Class)
- **Abbreviations**
- **Typos**

Appearance
- **Layout**
  - Spacing
  - Margins
  - (Sub) Headings
  - Quotations: short vs long
- **Font**
- **Numbering**
  - Pages
  - Sections
  - Figures & Tables
- **Figures & Tables**

Referencing
- **Harvard**
- **Vancouver**
- **Other reference type**
- **Authors**
  - Order of names
- **Year of publication**
- **Title**
- **Journal / Publisher**
- **Punctuation**

Tips
- Build proofreading into your **planning**
- Use MS Word spell and grammar checkers with care: they don't catch everything, e.g., *homophones (there:their)*
- **Print out** a hard copy of the document to read it through
- Read it the next day
- Reading the text aloud can help reveal issues.
- Read the document through **more than once**, each time with a specific focus: referencing, language, appearance

Organisational Principle

1. Purpose

2. Hypothesis

3. Background

    3.1 Specific Title

    3.2 Specific Title

4. Methodology

    4.1 Specific Title

    4.2 Specific Title

5. Evaluation

6. Work Plan

References

---

1. Motivation

    2.1 Specific Title

    2.2 Specific Title

2. Background

3. Programme and Methodology

    3.1 Specific Title

    3.2 Specific Title

4. Evaluation

5. Expected Outcomes

6. Work Plan, Milestones and Deliverables

References

---

1. Motivation

2. Background

    2.1 Specific Title

    2.2 Specific Title

3. Methodology

    3.1 Specific Title

    3.2 Specific Title

4. Expected Outcomes

5. Ethics

6. Limitations, challenges and risks

7. Work Plan and deliverables

References

REMEMBER: Titles and subtitles are not a substitute for good, clear transitioning between chapters, sections and paragraphs.

Language: Using verbs

PP
- It's a document about the future as well as now.
- Use language to reflect this.

Verbs
- Use of tenses
- Active vs Passive forms

Avoid
- ✗ Contracting verb forms (formality)

1. Look at the exemplar project proposals.
2. Review your own use of language in your PP.

Language: Useful verbs in a research proposal

- To determine …
- This then enables … This will ensure …
- This is / may be dependent on…
- X typically occurs when…
- X is typically performed by …
- I/We expect that/to …   [NB: Do NOT use It is expected that]
- I/We expect / anticipate …   [similarly with It is anticipated that …]

Use verbs to describe actions, rather than nouns, but … **cohesion**:

- We **analysed** a sample of the dust that was obtained from the dark side of the moon. **This analysis** revealed that…

Language: Useful verbs for the introduction and background

- Background known
  - Present tenses (simple & perfect) & Reference to literature
- Gap / unknown / problem/ need
  - **However**, … **Although** …, **Despite** …, **Nevertheless**, …
- Aim / Hypothesis
  - **This project aims to** …
  - **We hypothesize that** …
- Significance/ impact
  - **This proposal serves to not only build/create/develop** … **but also** …
  - **Further research that builds on this project would** …

Identifying the gap or problem

- However, …
- Despite …
- Although, …
- Currently, …
- To date, …

- gap in our knowledge
- little evidence is available for …
- restricted by …
- not sufficiently …
- need for …
- there is growing concern …
- remains unclear
- does not … [achieve / offer …]
- there is no …
- a key/major drawback

- impractical
- inaccurate
- inadequate
- incompatible
- limited
- redundant
- unrealistic
- weak
- narrow
- vulnerable (to)
- at risk of/risk(s)

Language: aims & purpose

(Thus) This project/study   **aims to** …
(Therefore)   **will build on** …   ✗ ~~is going to~~

      will focus on …

      will set out to …

The purpose of this study **is to** …

The objective is **to evaluate** the feasibility of …

There **are** two primary aims of this study: 1. **To** …

This **motivates** a …

Language: The methodology / procedure is similar to the ones you cite.

The methodology selected will be / is intended to be....

- **a (slightly) modified version of …**

- **adapted from …**

- **based [in part] on/ partly on …**

- **in line with …**

- **in essence …**

- **to modify/ to refine/ to revise …** [BE SPECIFIC].

And then explain **<u>how</u>** in detail!

Language: The intended procedure is significantly different from those you cite.

- Although in essence similar,
- Although in many ways similar,
- Although partially based on,
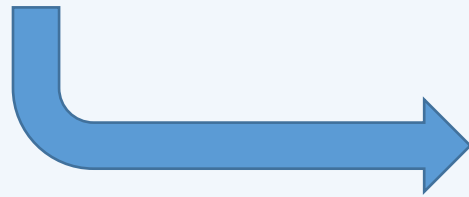
one novel step will be to **adapt / adjust / alter / change ...**

THEN SAY what you are altering in detail and <u>WHY</u>!

Language: Justify the choices you make

- To validate the results from X, data will be analysed using Y.

- For the sake of simplicity, only X will be analysed.

- The advantage of using three-dimensional analysis is that X.

- One advantage of using X is that Y.

- By partitioning the sample into three, I will be able to ensure X.

- The X will be Y, so allowing the Z.

- This should avoid issues with X or Y.

Significance of Research

The proposal should demonstrate the originality/usefulness of your intended research.

You should therefore explain **why** your research is important, for example:

- by explaining how your research builds on and adds to the current state of knowledge in the field

or

- by setting out reasons why it is timely to research your proposed topic.

Language: Establishing impact and significance

- A current / common / crucial issue / focus
- A powerful tool / method
- Of great concern is
- Of growing [commercial] interest is
- attracting / generating widespread interest
- play(s) a key role in … / a major part in …
- For a number of years, … / the last decade, …
- The importance of …

- typical(ly)
- well-documented
- widely recognised
- worth / worthwhile
- benefit / beneficial
- importance
- vital
- potential / possible / probable

The next two slides look at an example:

Modelling patient flow can reveal important features of the operational system of the hospital, as well as give ideas for new measures that can improve the inefficiencies of the system and reduce waiting times. Furthermore, the medical community agrees that the management of patient flow can improve both the quality of care and patient satisfaction [3].

Various techniques have been employed to model patient flow in recent years, most of them not being able to represent accurately the topology of a real-world hospital[4]. In this project, network analysis and process mining techniques will be used to analyse patient flow of two acute hospital sites of King's College Hospital NHS Foundation Trust. The capabilities of these techniques will help to create more representative models.

…

It is worth noting that this project is one of the first to include gender and age attributes to the modelling of patient flow. Using the two aforementioned techniques, we aim to …

Source: Patient flow analysis using process mining techniques and network analysis.

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Source: Patient flow analysis using process mining techniques and network analysis.

Language: A proposal is about showing you understand the possibilities

- By doing X, the intention is to Y.
- I/We expect to achieve …
- This should mean that …
- This could lead to X.
- Potentially, …   Presumably, …
- It seems plausible that …
- Manageable / feasible

The Language of Evaluation: How will you measure outcomes?

X will be evaluated measured

in terms of / for …
on the basis of …
against a set of …
in a more qualitative way

X **will be used to evaluate** the …
I/We will **evaluate and compare** the …
The objective **is to evaluate** the feasibility of X as a Y

"Meta-language": Telling your reader what you are doing

In the next section, we will discuss different techniques that the scientific community used to model patient flow and discuss the results of last year's work.

Below, the most common techniques are presented, namely Queueing models, Simulation models, Process mining, and network analysis.

We will further discuss the methodology for point selection and tracking in section 4.

As we will discuss in the next section, constraints such as proximity, maximum velocity, small velocity change, common motion, rigidity and proximal uniformity can help to not only overcome the correspondence problem but also detect physical objects [4].

The abstract

Include:

- Background
- Unknown/ problem/need
- Overall objective
- General strategy/methodology/approach
- Significance/ impact.
- Clearly identify the overall objective

The abstract isn't like a movie trailer, so don't worry about "plot spoilers"!

When?

Example abstract: Identify the elements

British hospitals are constantly failing to meet the targets set by the UK government. Precisely, the last six years, goals regarding the accident and emergency department have not been achieved. Evidently, there is a need for change in the operational systems of British hospitals. This project aims at using network analysis and process mining techniques to analyse the patient flow of two acute hospital sites at Kings College hospital. The data set that will be used contains information about patient transfers between wards that occur between X&Y. This analysis can help professionals to improve the inefficiencies of the system and reduce waiting times. This work builds on a project done by a student last year in which only a small subset of the data set was used due to limitation of time. Furthermore, the results of a previous study, in which network analysis was used, will be used for comparison. Specifically, an investigation of how patient flow has changed since then will not be carried out, while at the same time the patient gender and age information that was not used in the previous study space dash space will be used to capture different aspects of patient flow.

Background

Problem/need

Overall objective

General approach

Impact

Abstract.

British hospitals are constantly failing to meet the targets set by the UK government. Precisely, the last six years, goals regarding the accident and emergency department have not been achieved. Evidently, there is a need for change in the operational systems of British hospitals. This project aims at using network analysis and process mining techniques to analyse the patient flow of two acute hospital sites at Kings College hospital. The data set that will be used contains information about patient transfers between wards that occur between X&Y. This analysis can help professionals to improve the inefficiencies of the system and reduce waiting times. This work builds on a project done by a student last year in which only a small subset of the data set was used due to limitation of time. Furthermore, the results of a previous study, in which network analysis was used, will be used for comparison. Specifically, an investigation of how patient flow has changed since then will not be carried out, while at the same time the patient gender and age information that was not used in the previous study space dash space will be used to capture different aspects of patient flow.

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Overall objective

General approach

Impact

Graduate Writing Centre

- Need help with your writing at any time of the semester?
- You can receive one-to-one consultations in an online academic writing tutorial (40 minutes) for postgraduate (PGT & PGR) international students
- Available to October to June
- NOT a proofreading service!!
- Booking is via MyEd.

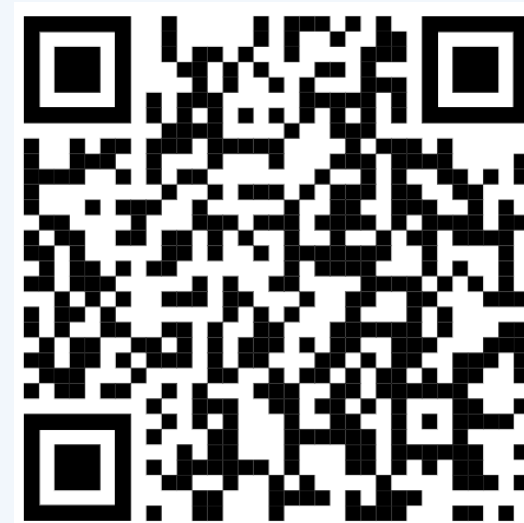https://ele.ed.ac.uk/insession-courses/graduate-writing-centre

Institute for Academic Development (IAD)

https://institute-academic-development.ed.ac.uk/study-hub

UEfAP [Using English for Academic Purposes for Students in Higher Education]
http://www.uefap.com/

Manchester Academic Phrasebank

https://www.phrasebank.manchester.ac.uk/

Academic Phrasebank

Referring to Sources | **Describing Methods** | **Reporting Results** | **Discussing**

Home Page

GENERAL LANGUAGE FUNCTIONS

- Being Cautious
- Being Critical
- Classifying and Listing
- Compare and Contrast
- Defining Terms
- Describing Trends
- Describing Quantities
- Explaining Causality
- Giving Examples
- Signalling Transition
- about the Past

The Academic Phrasebank is a general resource for academic writers. It aims to provide you with examples of some of the phraseological 'nuts and bolts' of writing organised according to the main sections of a research paper or dissertation (see the top menu). Other phrases are listed under the more general communicative functions of academic writing (see the menu on the left). The resource should be particularly useful for writers who need to report their research work.The phrases, and the headings under which they are listed, can be used simply to assist you in thinking about the content and organisation of your own writing, or the phrases can be incorporated into your writing where this is appropriate. In most cases, a certain amount of creativity and adaptation will be necessary when a phrase is used.The items in the Academic Phrasebank are mostly content neutral and generic in nature; in using them, therefore, you are not stealing other people's ideas and this does not constitute plagiarism. For some of the entries, specific content words have been included for illustrative purposes, and these should be substituted when the phrases are used.The resource was designed primarily for academic and scientific writers who are non-native speakers of English. However, native speaker writers may still find much of the material helpful. In fact, recent data suggest that the majority of users are native speakers of English. More about **Academic Phrasebank**.

This site was created by **John Morley**. If you could spare just two or three minutes of your time, I would be extremely grateful for any feedback on Academic Phrasebank: Please click **here** to access a very short questionnaire. Thank you.