Week 6
Advanced Vocabulary for Technical Writing

Overview

This week focuses on strengthening your technical writing skills through advanced grammar and vocabulary practice. You will work on cohesion, passive voice, definite articles, and modals — all of which are essential for clarity and precision in engineering and AI-related texts.

Assignments:
- Assignment 05: Cohesion in Technical Writing
- Assignment 06: Passive Voice
- Assignment 07: Definite Articles for Technical Clarity
- Assignment 08: Modals for Precision & Caution

Objectives:

By the end of this week, you should be able to:
- Improve the clarity and professionalism of technical writing.
- Identify and apply cohesion techniques to create logically connected texts.
- Use the passive voice appropriately in technical and academic contexts.
- Apply definite articles ("the") correctly for technical clarity.
- Use modals (e.g., may, might, must, should) to express precision, caution, or necessity.

1. Cohesion & Parallelism in Technical Writing

Cohesion is the quality that makes a text flow logically and smoothly so that the reader can easily follow the ideas. In technical writing, cohesion is critical for clarity and accuracy.

Ways to Achieve Cohesion:

1. Linking words and phrases – help connect sentences and show relationships between ideas.
    a. Cause/Effect: therefore, consequently, as a result
    i. Example: The update failed; therefore, the system must be restarted.
    b. Addition: in addition, furthermore, moreover
    i. Example: The device is energy-efficient. In addition, it has a longer battery life.
    c. Contrast: however, nevertheless, on the other hand
    i. Example: The engine is powerful; however, it requires regular maintenance.

2. Consistent terminology – repeat key technical terms instead of replacing them with synonyms that could confuse the reader.
    a. ✅ The pressure valve must be checked daily. If the pressure valve is loose, tighten it.
    b. ❌ The pressure valve must be checked daily. If the valve is loose, tighten it. (Possible confusion: Which valve?)

3. Logical order – present steps or information in a sequence that makes sense for the task or explanation.
    a. Example: Step-by-step instructions for installing software should start with downloading the file and end with testing the program.

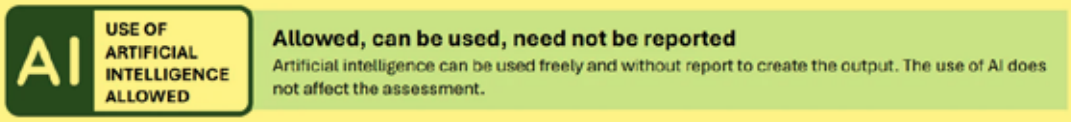
<u>1.1 Parallel Structure (Parallelism)</u>

Parallel structure means using the same grammatical form for items in a list or series. This improves readability and makes technical writing more professional.

- ✅ The software is fast, secure, and reliable. (all adjectives)
- ❌ The software is fast, secure, and it improves productivity. (two adjectives + one clause – not parallel)

You can check for parallelism by comparing each item in your list:
- Do they all start the same way (verb form, adjective, noun)?
- Are they the same type of word or structure?

Assignment 05: Cohesion in Technical Writing
Answer all questions in the quiz. Use the examples above to guide your answers.



2. Passive Voice in Technical Writing

In technical and scientific writing, the passive voice is commonly used to emphasize what was done, rather than who did it. This helps keep the tone objective and focused on the process, result, or system behavior, which is especially useful when describing AI workflows, experiments, and results.

2.1 Active vs. Passive: What's the Difference?

Voice	Example	Focus
Active	The engineers trained the model.	Emphasizes the doer (engineers)
Passive	The model was trained (by the engineers).	Emphasizes the process or result

In technical writing, we often omit the agent (by whom) when it's not important:
✅ The model was trained on 1 million samples.
❌ Someone trained the model on 1 million samples.

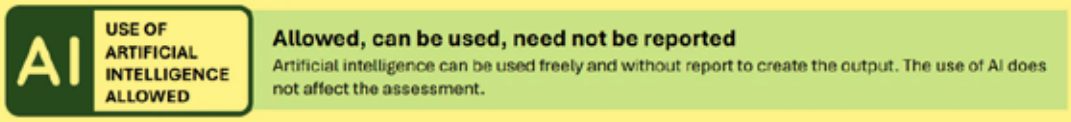
2.2 Why Use Passive Voice in Technical Writing?
·To focus on the task or system, not the person
The data were collected over a six-week period.
·To maintain an objective tone
A support vector machine was applied to classify the input data.
·To describe steps or procedures
The system was shut down before maintenance was performed.

2.3 When NOT to Use Passive Voice
·When clarity suffers
✅ It was determined that errors occurred. (Who determined this? What kind of errors?)
❌ The testing team found multiple configuration errors.
· When the doer is important
OpenAI developed the GPT-4 model. (The developer is relevant here.)

2.4 Common Passive Structures in Technical Writing

Tense	**Example**
Present simple	Data are stored in the cloud.
Past simple	The model was trained using PyTorch.
Present perfect	Several updates have been released.
Modal + passive	The output must be verified.

Assignment 06: Passive Voice
Answer all questions in the quiz. Use the examples above to guide your answers.



3. Definite Articles for Technical Clarity

In English, the definite article is “the”. It is used when referring to a specific person, object, or concept that both the writer and the reader understand or can identify.
In technical writing, using the correctly is essential for precision and clarity — especially when describing systems, procedures, or components where exact references are important.

✅ Use “the” when the noun is:

1. Already mentioned or known in the context
First, install the driver. Then restart the system.
(The driver and the system have already been introduced or are clear from the context.)

2. Unique in the situation
The power button is located on the back panel.
The algorithm was trained on real-time data.
(There is only one power button or algorithm being discussed.)

3. Defined by a modifier (phrase or clause)
The dataset used for this experiment was collected manually.
The report that summarizes the findings is attached.
(The modifier makes the noun specific.)

4. Part of a known system or process
The user must log in before accessing the dashboard.
The output is displayed in the lower panel.
(Common in instructions and system descriptions.)

❌Do NOT use “the” when:

1. Talking about something in general
Neural networks are widely used in computer vision.
Accuracy is critical in model evaluation.
(No article is needed for general concepts or plural countable nouns when unspecific.)

2. Using uncountable nouns in a general sense
Data must be validated.
Machine learning improves efficiency.
(„Data“ and „machine learning“ refer to concepts, not specific instances.)

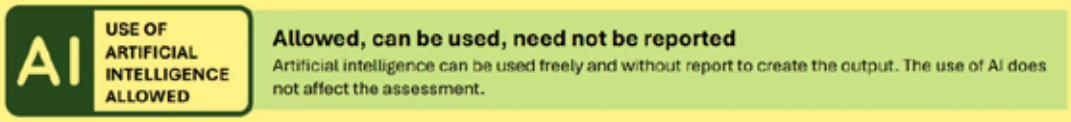
Compare: Specific vs. General

General (no article)	**Specific (with “the”)**
Models are trained on data.	The model was trained on the dataset from Kaggle.
Users log in to access features.	The user must agree to the terms before continuing.
AI can improve performance.	The AI used in this system improves performance.

3.1 Common Technical Writing Mistakes

❌ The AI is advancing rapidly. → ✅ AI is advancing rapidly. (no article when speaking generally)
❌ Model was trained on dataset. → ✅ The model was trained on the dataset. (missing articles)

Assignment 07: Definite Articles for Technical Clarity
Answer all questions in the quiz. Use the examples above to guide your answers.



4. Modals for Precision & Caution

In technical writing, especially when discussing AI systems, data, or experiments, it's important to sound precise but also cautious when needed.
This is where modal verbs come in.

Modal verbs help express:
· Possibility or probability
· Obligation or necessity
· Advice or recommendations
· Uncertainty or speculation
Using them properly makes your writing professional, balanced, and credible.

4.1 Common Modals in Technical Writing

Function	Modals	Example
Possibility	may, might, can, could	The model may produce inaccurate results with noisy data.
Necessity / Obligation	must, have to	Users must validate the input before running the model.
Advice / Recommendation	should, ought to	The algorithm should be tested on multiple datasets.
Probability (in context)	will, would	The AI system will improve performance over time.

A larger dataset would likely increase accuracy.

4.2 Why Use Modals in Technical Writing?
1. ✅ To be precise
The tool must be installed before the test.
(Clear requirement)
2. ✅ To express caution or uncertainty
The algorithm might fail in rare edge cases.
(Avoids overclaiming)
3. ✅ To soften claims and stay objective
This approach could improve performance, but more testing is needed.
4. ✅ To recommend best practices
Developers should monitor output quality during deployment.

4.3 Common Misuses
· ❌ The user validates the data. → Sounds like a fixed truth.
✅ The user must validate the data. → Clear requirement
· ❌ This solution gives better results.
✅ This solution may give better results depending on the dataset.

4.4 Pro Tips

· Avoid absolute claims unless fully proven. Use may, might, or could when results are not guaranteed.
· Use “must” carefully – it implies mandatory action with no exceptions.

Assignment 08: Modals for Precision and Caution

Answer all questions in the quiz. Use the examples above to guide your answers.