

(Informal) Logic: Basics

WRIT 0590: Module 2.1

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Structure of the Outline

Research Papers

Overview

- ▶ Begin reading the first chapter of the course text.

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Overview

- ▶ Begin reading the first chapter of the course text.
- ▶ We will use logical outlining to:
 - ▶ Analyze chapters from the course text.
 - ▶ Develop proposals for major course outputs: white paper, op-ed, and reflection letters.
- ▶ Logical outlining bridges the final, linearized text the reader sees and the underlying structural (non-linear) relationships within the text.

Overview

▶ Surface, linearized text the reader sees



▶ Underlying, non-linear structure of the text

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- ▶ Task A: Extract the underlying structure from a linearized text (= read a paper)

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- ▶ Surface, linearized text the reader sees \longleftrightarrow ▶ Underlying, non-linear structure of the text
- ▶ Task A: Extract the underlying structure from a linearized text (= read a paper)
- ▶ Task B: Transform an underlying structure into linearized text (= write a paper)

Logical Outline

- ▶ Here is a simple model of the underlying structure that we'll be using in this course.

(1) Minimal logical outline:

- ▶ Premise
- ▶ **Proposition**
 - ▶ Reason
 - ▶ Evidence

Logical Outline: Example

- ▶ Example: Train vs. Car commute.
 - ▶ Step 1: Premises (Why is this topic important?)
- (2) Minimal logical outline:
- ▶ (Premise 1:) Many people commute for work daily.
 - ▶ (Premise 2:) In PA and NJ, commuters often choose between traveling by train or car.
 - ▶ **Proposition**
 - ▶ Reason:
 - ▶ Evidence:

Logical Outline: Example

- ▶ Step 2: Proposition (The highest-level statement in a text)

(3) Minimal logical outline:

- ▶ Premise 1: Many people commute for work daily.
- ▶ Premise 2: In PA or NJ, commuters often choose between traveling by train or car.
- ▶ **Proposition:** Commuting by car allows individuals to better focus on their needs.
 - ▶ Reason:
 - ▶ Evidence:

Logical Outline: Example

- ▶ Step 3: Reasons (Statements supporting the proposition at a lower level) supported by evidence
- (4) Minimal logical outline:
 - ▶ Premise 1: Many people commute for work daily.
 - ▶ Premise 2: In PA or NJ, commuters often choose between traveling by train or car.
 - ▶ **Proposition:** Commuting by car allows individuals to better focus on their needs.
 - ▶ Reason: One can work on a train, which is not possible while driving a car.
 - ▶ Evidence: Using laptops or mobile phones

Logical Outline: Example

- ▶ Step 3: Reasons (Statements supporting the proposition at a lower level) supported by evidence
- (5) Minimal logical outline:
 - ▶ Premise 1: Many people commute for work daily.
 - ▶ Premise 2: In PA or NJ, commuters often choose between traveling by train or car.
 - ▶ **Proposition:** Commuting by car allows individuals to better focus on their needs.
 - ▶ Reason: One can work on a train, which is not possible while driving a car.
 - ▶ Evidence: Using laptops or mobile phones
 - ▶ Reason: One can take a nap on a train, which is not possible while driving a car.
 - ▶ Evidence: High % of commuters using travel time to rest (Survey)

Research Papers

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Research Papers

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 - ▶ **Introduction:** Premises
 - ▶ **Title:** Proposition
 - ▶ **Discussion:** Proposition (including limitations)
 - ▶ **Results:** Reasons and evidence
- ▶ Why this alignment? To save the reader time.

Generative AI enhances individual creativity but reduces the collective diversity of novel content

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Abstract

Creativity is core to being human. Generative artificial intelligence (AI)—including powerful large language models (LLMs)—holds promise for humans to be more creative by offering new ideas, or less creative by anchoring on generative AI ideas. We study the causal impact of generative AI ideas on the production of short stories in an online experiment where some writers obtained story ideas from an LLM.

Abstract |

INTRODUCTION

RESULTS

DISCUSSION



- ▶ Let's extract the underlying structure from this paper together!

- ▶ First, let's talk about the paper!
 - ▶ **Question 1:** The paper describes how generative AI ideas can act as a “springboard” for creativity or, conversely, anchor and limit originality. Do you think generative AI helps or hinders the creative process more significantly? Why?

- ▶ First, let's talk about the paper!
 - ▶ **Question 1:** The paper describes how generative AI ideas can act as a “springboard” for creativity or, conversely, anchor and limit originality. Do you think generative AI helps or hinders the creative process more significantly? Why?
 - ▶ **Question 2:** The study highlights that less creative writers benefit the most from generative AI. Do you think this “equalizing effect” is beneficial for creativity as a whole, or does it risk lowering the standards of what we consider “creative”?

- ▶ Let's extract the underlying structure from this paper together!

(6) Doshi & Hauser 2024 outline:

- ▶ Introduction
- ▶ **Proposition:** Gen AI enhances individual creativity but reduces the collective diversity of novel content
 - ▶ Less creative writers experienced the greatest improvements, achieving levels comparable to more inherently creative individuals.
 - ▶ Evidence: Stories written with generative AI were evaluated as better written, more enjoyable, and less boring (see results).
 - ▶ Reason: Having access to Gen AI ideas makes a story more similar to the average of other stories within the same condition
 - ▶ Evidence: We computed the cosine similarity of the embedding of the focal story with the average embedding of all other stories in the same condition (see results)

- ▶ Let's now extract the underlying structure from the first chapter.