

# Guidelines for the discourse connectives task

Prolific study, August 2021



UNIVERSITÄT  
DES  
SAARLANDES

# Task overview

---

- ▶ You have recently worked on a task for us, for which you used linking words to indicate the relationship between parts of text.
- ▶ Based on your good performance, you have been selected to participate in a paid training for our task.
- ▶ These 2 training rounds will teach you some of the details of this task and will further improve your performance.
- ▶ The training consists of two parts. You'll be reimbursed the normal rate for each training round, and you will receive a bonus after completing both rounds!
- ▶ If we see that your performance increases during the training rounds, you will be invited to a bigger, closed task (=more frequent studies).

Note: You are allowed to take notes during training and use these during the task.

# Training overview

---

- ▶ Explanation of discourse relations & connectives
- ▶ Explanation of the task
- ▶ Taking part in the study

Once you've completed the training and the study:

- ▶ We will evaluate your performance
- ▶ We will invite you for another round of training
- ▶ You can take part in another study

# Task background

---

- ▶ An important aspect of understanding a text is identifying the relations between clauses and sentences.
- ▶ These relations are called **discourse relations**.
- ▶ Discourse relations hold between two text spans → referred to as **segments**.
- ▶ The segments are the “idea units” between which a relationship holds.
- ▶ In the task that you will perform, segments are often sentences, but they can be smaller (clauses) or larger (paragraphs) as well.

## Example of a discourse relation:

Segment 1: F. Scott Fitzgerald wrote in gin-fuelled bursts.

Segment 2: He believed alcohol was essential to his creative process.

→ Segment 2 presents the **reason** for Segment 1.

# Task background

---

- ▶ Discourse relations can be expressed through **discourse connectives**; they signal what type of discourse relation holds.
- ▶ Examples of discourse connectives are *because*, *as a result*, *specifically*, *for example*, *but*, etc.

## Example of a discourse relation:

Segment 1: F. Scott Fitzgerald wrote in gin-fuelled bursts.

Segment 2: He believed alcohol was essential to his creative process.

→ because could express the reason relation between these sentences:

*Scott Fitzgerald wrote in gin-fuelled bursts **because** he believed alcohol was essential to his creative process.*

# Table of Contents

---

- ① Discourse connectives
- ② Discourse relations and their connectives
- ③ The task

# What is a discourse connective?

---

- ▶ Discourse connectives are words that connect clauses or sentences.
- ▶ These connectives express a logical relation between the two parts of the text.
- ▶ Connectives can be conjunctions (e.g. but), adverbs (e.g., however), prepositions (e.g., after) or prepositional phrases (e.g. for example).

→ For our task, you do not need to know exactly what type of word each connective is. Just understand that connectives are more than just conjunctions.

This training will give you plenty of examples of discourse connectives. Study them so that you can use them appropriately in the task. You are allowed to take notes and use them during the task.

# What is not a discourse connective

- ▶ Words such as which or that are not discourse connectives, because they do not tell us what type of relationship holds between the two parts of text. → Connectives need to express a logical relation between two parts of text.
- ▶ Words that you use to make the second sentence more grammatical are not discourse connectives. For example, function words such as the or a do not tell us the relation between the two parts of text.
- ▶ Words that express sentiment, such as luckily and unfortunately, are not discourse connectives. They only express feeling about one part of the relation and do not express a relationship between the two parts of a text.

## Note: Some connectives also have different uses

In the sentence “*John praised Mary, as she was doing a good job*”, “as” is a discourse connective.

In the phrase “*it came as a shock*”, “as” does not function as a connective because it does not connect two separate clauses, sentences, or paragraphs.



# Discourse connective examples, part 1

---

## Example:

The judge announced his verdict. The criminal was sentenced to prison.

- ▶ You can use the discourse connective specifically to express that the second sentence specifies (gives more detail) what is mentioned in the first sentence.
- ▶ Using which was or that to connect these sentences is incorrect; these are not discourse connectives!

## Example:

Josh hasn't gone swimming in a week. He usually goes swimming every day.

- ▶ Even though can be used to express that it is unexpected that Josh hasn't gone swimming in a week, given the information in the second sentence.
- ▶ Generally or typically cannot be used to connect these two sentences! They say something about the second sentence, but not about the relation between the first and second sentence.

## Discourse connective examples, part 2

### Example:

*Grapsus grapsus* is a species of crab. Known as the red rock crab, they are considered to be beautiful.

- ▶ You can use and to express that both sentences convey information about the same topic, or in more detail to express that the second sentence provides more detailed information about the topic in the first sentence.
- ▶ Using they are or also to connect these sentences is incorrect; they only make the second sentence sound more grammatical. (Note: “also” can be a connective, but not when it is used in “also known as”.)

### Example:

Seagulls like to eat *Grapsus grapsus*. They are now becoming extinct.

- ▶ You can use as a result or so to express that the first sentence presents the reason for the second sentence.
- ▶ You should not use sadly to connect these sentences since that expresses sentiment and not a relation.

## Discourse connective exercise

---

Try to identify all connectives in the text. Tip: many occur between clauses in this text, so don't only look between sentences. And don't peek at the answers!

First off, my dog recovered from her allergic reaction and I have recovered from accidentally eating one of her dog pills because I couldn't split it in half so I used my teeth. I figured I would either get really healthy or die but neither happened so it was basically a very anticlimactic superhero origin story.

Secondly, my parents came over and I felt bad that the house is a mess but they're very nonjudgemental. I considered cleaning up because probably your parents worry about you if you have a toilet seat on the kitchen counter. But it was a brand new toilet seat still in the package so technically it was more like I was bragging about my new purchase and that seemed like a good way to reassure my parents that they didn't need to worry about me because I was obviously doing pretty damn good if I had unused toilet seats to spare. Victor didn't see it the same way but Victor's family are a bunch of Rockefellers who I guess go through new toilet seats every week like they're disposable.

Source: adapted from [thebloggess.com](https://thebloggess.com)

## Discourse connective exercise – answers

We have underlined all discourse connectives in the text. Did you get them all?

First off, my dog recovered from her allergic reaction and I have recovered from accidentally eating one of her dog pills because I couldn't split it in half so I used my teeth. I figured I would either get really healthy or die but neither happened so it was basically a very anticlimactic superhero origin story.

Secondly, my mom and dad came over and I felt bad that the house is a mess but they're very nonjudgemental. I considered cleaning up because probably your parents worry about you if you have a toilet seat on the kitchen counter. But it was a brand new toilet seat still in the package so technically it was more like I was bragging about my new purchase and that seemed like a good way to reassure my parents that they didn't need to worry about me because I was obviously doing pretty damn good if I had unused toilet seats to spare. Victor didn't see it the same way but Victor's family are a bunch of Rockefellers who I guess go through new toilet seats every week like they're disposable.

Did you select any that were not connectives? For example, in “*my mom and dad*”, “and” is not a connective because it only connects two nouns.

# Table of Contents

---

- ① Discourse connectives
- ② Discourse relations and their connectives
- ③ The task

- ▶ There are many different types of discourse relations. We can categorize most into the following broad types, which we will explain more in the following slides:
  - ▶ Causal
  - ▶ Temporal
  - ▶ Contrastive
  - ▶ Specification
  - ▶ Additive
- ▶ In what follows, we will present a short definition along with typical discourse connectives and examples for each of these relation types.

# Causal relations: definition

**One segment is the reason or result of the event in the other segment.**

Example of a causal relation:

[We need a change] because [what we've been doing so far has not been working.]

- ▶ The second segment provides a **reason** for the first segment.

Example of connectives expressing causal relations:

Second segment is the reason:

- ▶ Because
- ▶ Since
- ▶ As
- ▶ Because of

Second segment is the result:

- ▶ So
- ▶ As a result / as a consequence
- ▶ Therefore
- ▶ Due to this,

# More causal examples

---

[Patients with amygdala damage cannot experience emotions.] As a result, [they have difficulties making decisions.]

- ▶ The second segment provides a **result** of what is reported in the first segment.

But by that logic, [hair growth must cause tooth growth,] since [babies usually grow hair before teeth.]

- ▶ The second segment provides the **reason** for uttering the first segment.



# Temporal relations: definition

The events in two segments occur after each other or simultaneously, but there is no causal relation between them

## Example of a temporal relation:

[The Voyager spacecraft took the photo] when [it was exiting the solar system.]

- ▶ The events occurred **simultaneously** (at the same time).
- ▶ No causal relation; it's not *because* the spacecraft was exiting that it took a photo.

## Example of connectives expressing temporal relations:

### Sequence:

- ▶ Before
- ▶ After
- ▶ Next

### Simultaneous:

- ▶ At the same time
- ▶ Meanwhile
- ▶ When

## More temporal examples

---

[These were people that were wildly successful] before [they had the damage to their amygdala.]

- ▶ The event in the first segment (being successful) occurs **before** the event in the second segment (damaging the amygdala).
- ▶ You can also say the order of segments is chronological.

[We determined the peptide's molecular structures] after [we produced them.]

- ▶ The event in the first segment (determining structures) occurs **after** the event in the second segment (producing peptides).
- ▶ The connective *after* signals this anti-chronological relation.

## Contrastive relations: definition

The segments are in contrast, or one segment is unexpected given the other.

### Example of an contrastive relation:

[They got married soon after they met.] Nevertheless, [they didn't like each other at first.]

- ▶ Marrying someone creates the expectation that the couple like each other. This **expectation is denied** in the second segment.
- ▶ *Nevertheless* signals that, in spite of the first sentence, the second sentence is true.

### Example of connectives expressing adversative relations:

#### Contrast:

- ▶ By contrast
- ▶ Whereas
- ▶ On the contrary

#### Unexpected event:

- ▶ Even though
- ▶ Nevertheless
- ▶ Despite (that)

## More contrastive examples

---

[RNA viruses don't have a proofreading mechanism,] whereas [DNA viruses do.]

- ▶ The two segments highlight a **contrast** between two entities (RNA versus DNA viruses).
- ▶ *Whereas* signals that there is a contrast between the sentences and that there is no unexpected event in either of the sentences.

[I took that leap of faith] even though [I was filled with fear.]

- ▶ The first segment is **unexpected** given the second segment: fear can stop you from taking the leap of faith.

Note: the definition of expectations being denied is a difficult one, so don't be alarmed if you struggle with what this means. Instead, you can focus on the connectives to help guide you in identifying these relations: *even though* and *nevertheless* are clear signals of these relations.

## Specification relations: definition

One segment gives an example of or more details about the other segment.

Example of a specification relation:

[Let's talk a moment about language;] more specifically, [I want to talk about the Arabic language.]

- ▶ The second segment **specifies** the topic that the speaker wants to talk about.
- ▶ *More specifically* indicates that the second segment specifies something mentioned in the first segment.

Example of connectives expressing specification relations:

Specification:

- ▶ More specifically
- ▶ In more detail
- ▶ In sum

Example:

- ▶ For instance
- ▶ Such as
- ▶ Including

## More specification examples

---

[Computer vision-based AI can do much more than what it's being used for.]  
For example, [it can notice unsafe behaviors.]

- ▶ The second segment provides an **example** of the first segment.

[The new technologies are going to bring us better health, more livable cities, more energy access to the developing world.] In sum, [they will bring us a better world than what we have now.]

- ▶ The second segment provides a **summary** of the first segment.

# Additive relations: definition

**Both segments give information about the same topic; no other relation holds.**

Example of an additive relation:

[Music affects our heart rate and pulse rate.] In addition, [it lowers our cortisol levels.]

- ▶ The segments provide two facts about music. There is no causal, temporal or adversative relation between these two facts.
- ▶ *In addition* signals the additive relation.

Example of connectives expressing additive relations:

Additive:

- |                |              |
|----------------|--------------|
| ▶ And          | ▶ Moreover,  |
| ▶ Additionally | ▶ Likewise,  |
| ▶ Also,        | ▶ Similarly, |

## More additive examples

---

[Each day could be divided into 24 hours] and [each hour into 60 minutes.]

- ▶ Both segments give information about the units of time; no causal, temporal or adversative relation holds between these segments.

[Chemicals will never transmit.] Similarly, [our vaccines are not designed to transmit.]

- ▶ The two segments highlight a similarity between two entities (chemicals versus vaccines).
- ▶ *Similarly* indicates that the segments provide a commonality between these two entities.



# Other relation types

---

- ▶ The relation types that we have discussed cover many common relations that you will find in texts.
- ▶ There are more types, but we cannot cover all relations in detail.
- ▶ Here are some examples of other relations you might come across:
  - ▶ Condition relations; commonly marked by if or unless
  - ▶ Alternative relations; commonly marked by alternatively or instead
  - ▶ Exceptions; commonly marked by except
  - ▶ Sequences; commonly marked first...second
- ▶ With some practice, you'll become very good at recognizing and distinguishing relation types.

# Table of Contents

---

- ① Discourse connectives
- ② Discourse relations and their connectives
- ③ The task

# The task

---

- ▶ In the tasks that we will invite you for, you will be presented with a set of paragraphs, which will be presented one paragraph at a time.
- ▶ There is no connective in the text to mark the relation between the two parts.
- ▶ This is why we need you to tell us which connective fits. Based on your provided connective, we will know which relation holds between the two segments.

The instructions for our tasks are as follows:

- ▶ First, carefully read the presented text.
- ▶ Then, for every paragraph, you will complete two steps.
  - ▶ In the first step, fill in a connective that can express the relation that you think holds between the two segments of the paragraph.
  - ▶ In the second step, choose from a list which connective best expresses the relation.

# Step 1

---

- ▶ Freely write the connective that you think fits between the two segments.
- ▶ What you write in Step 1 will be used to determine which connectives you are presented with in Step 2.
- ▶ Write only connectives, not grammatical words like “the”, “which”, etc.
- ▶ Be careful not to make any typos! This will affect the list you see in Step 2.
- ▶ In this example, you could write because:

Michelle will really like the concert //  she loves the cello.

next step

## Step 1 – Additional information

---

The double slash that you see at the end of the first sentence can be interpreted as any type of punctuation.

### Example punctuation

There was a storm last night // the streets are flooded.

- ▶ If you fill in so, the double slash can be thought of as a comma.
- ▶ If you fill in as a result, the double slash would be a full stop.

Do not include punctuation to finish the sentence in your answer! So don't write ". As a result," , simply write "as a result," or "as a result".

## Step 2

---

- ▶ Go through the connectives in the box and choose the best-fitting one.
- ▶ It is possible that multiple connectives sound appropriate. In such cases, go with your instincts to choose the one that best expresses the meaning of the relation.

Please drag the best-suited connective into the green target box below.

Candidate connectives

nevertheless,

also,

specifically,

because

before

so

Michelle will really like the concert //  she loves the cello.

Submit

## Step 2 – Additional information

---

- ▶ Sometimes the connective that best expresses the relation may not fit the item well because it sounds awkward grammatically.
- ▶ This is why you have to make sure to focus on the meaning of the connective (and not how it sounds).

### Example

[Sam brushed his teeth.] [He put toothpaste on his brush.]

- ▶ This relation is an anti-chronological temporal relation: you tend to brush you teeth *after* you have applied toothpaste.
- ▶ You fill in “after” in Step 1, and you are provided with this list in Step 2: *at the same time, since, additionally, previously*
- ▶ You might think that “previously” sounds awkward in this example; it is very formal and an uncommon connective.
- ▶ However, it does provide the intended relation sense, and so it is the best choice here.

# Training and Qualification

---

We will release two training rounds:

- ▶ For the first round, you should carefully read these guidelines here and in the interface. Then, you'll be given a set of 20 simple items, which you should complete according to the guidelines. We will then assess your work.
- ▶ For the second round, you should re-read these guidelines. You'll then be given another set of paragraphs to complete. If we see that you follow the guidelines and that you did well on the second round, you will qualify to start working on more tasks.

The items we give in this training round will be very easy, so you can practice getting familiar with the different relation types. The items you will see in the next training round will come from a real text.



# Ready, set, go!

---

If you have any questions, please send us a message via Prolific.

Good luck with the task and thank you for participating!