

Connecting Sentences

This material is adapted from *English Solutions for Engineering Research Writing* <http://www.hanyangowl.org>

4.6. Transition signals

Transition signals clearly show the connections between sentences, ideas, paragraphs, and even whole sections of an article or dissertation. This concept includes some of the writing tips that we have already mentioned but also introduces other structures.

In the following paragraph, we see that the relationship between each sentence in the paragraph is clear. In the second sentence “urgent demand” is referred to and connected in the next sentence by the transition “such needs.” The phrase “Among these information sources” makes it clear that this sentence is giving information about only one of the types mentioned in the previous sentence. Other types of transitions such as “for example,” “more importantly,” and “furthermore,” give a clue to the reader of how to understand the sentence. We can see that “more importantly” helps us to understand the key point the writer is trying to make, but “furthermore” is used to give an additional point.

EXAMPLE

DIGITAL video now plays an important role in entertainment, education, and other multimedia applications. With hundreds of thousands of hours of archival videos, there is an urgent demand for tools that will allow efficient browsing and retrieving of video data [1], [20], [21]. In response to such needs, various video content analysis techniques using one or a combination of image, audio, and textual information present in video have been proposed to parse, index, and abstract massive amounts of data [1], [3], [15], [20]. Among these information sources, caption text present in the video frames plays an important role in understanding the content of a raw video sequence. For example, captions in news broadcasts and documentaries usually annotate information on where, when, and who of the reported events. More importantly, a sequence of frames with caption text is often used to represent highlights in documentaries. Also, captions are widely used to depict titles, producers, actors, credits, and sometimes, the context of a story. Furthermore, text and symbols that are presented at specific locations in a video image can be used to identify the TV station and program associated with the video. In summary, captions in video frames provide highly condensed information about the contents of the video and can be used for video skimming, browsing, and retrieval in large video databases.

Source: Zhong et al.: IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 22, No. 4, p. 385 © IEEE 2000

Read this paragraph again after all of the transition signals have been taken out.

EXAMPLE [TRANSITIONS REMOVED]

DIGITAL video now plays an important role in entertainment, education, and other multimedia applications. There is an urgent demand for tools that will allow efficient browsing and retrieving of video data [1], [20], [21]. Various video content analysis techniques using one or a combination of image, audio, and textual information present in video have been proposed to parse, index, and abstract massive amounts of data [1], [3], [15],[20]. Caption text present in the video frames plays an important role in understanding the content of a raw video sequence. Captions in news broadcasts and documentaries usually annotate information on where, when, and who of the reported events. A sequence of frames with caption text is often used to represent highlights in documentaries. Captions are widely used to depict titles, producers, actors, credits, and sometimes, the context of a story. Text and symbols that are presented at specific locations in a video image can be used to identify the TV station and program

associated with the video. Captions in video frames provide highly condensed information about the contents of the video and can be used for video skimming, browsing, and retrieval in large video databases.

The text itself is understandable, but it seems to read like a list of equal parts. It is possible, for example, to miss the fact that the use of captions to represent highlights in documentaries is very important, or that the last sentence is a conclusion. One of the most common writing problems for Korean scientists writing in English is a lack of transitions. This lack of transitions is often what makes a reviewer state that a paragraph is “unclear” or “hard to follow.”

4.6.1 Transitions help show the structure of paragraphs

Earlier we learned about the structure of paragraphs. Most paragraphs that explain or analyze have a topic sentence, which may indicate that the paragraph has more than one controlling idea or level 2 sentence using the level of generality concept introduced in **4.4**. Generally speaking, whenever you introduce a level 2 idea, it is a good idea to use a transition signal. Words like “first” or “second” are often used as transitions to introduce parts of a paragraph. Words like “furthermore” or “also” are often used to indicate that a new point is being made. In short, if you have finished discussing an idea either start a new paragraph or introduce a transition.

4.6.2 Transitions help show the structure of entire documents

Transition signals can also tell the reader what you are going to talk about next or remind them of what you have already mentioned. You can think of these phrases as commenting on the writing itself. Examples include: In Section 4 we will discuss the importance of X, X will be examined in Chapter 5, as previously stated and discussed above. These types of comments are especially important in long pieces of writing such as a thesis, dissertation or textbook.

4.6.3 Types of transitions

Transition signals can be words, phrases, or even whole sentences or paragraphs between sections of a paper.

Korean students are familiar with transitions like “However,” “therefore,” “first,” and “in conclusion.” However, to write sophisticated research papers effectively, you should be able to make transitions at the phrase, clause, and sentence level as well.

4.6.4 Transition word

This is a word which shows how two sentences or paragraphs are linked. The examples below indicate that additional information is being added.

EXAMPLE

Also, captions are widely used to depict titles, producers, actors, credits, and sometimes, the context of a story. **Furthermore**, text and symbols that are presented at specific locations in a video image can be used to identify the TV station and program associated with the video.

4.6.5 Transition phrase

This is a phrase (a group of two or more words in sequence) that shows how two sentences or paragraphs are linked. It explains how the following sentence gives more information about the needs for efficient browsing and retrieving of the previous one. For further information on the definition of phrase see Section 3.1.5.

EXAMPLE

With hundreds of thousands of hours of archival videos, there is an urgent demand for tools that will allow efficient browsing and retrieving of video data [1], [20], [21]. In response to such needs, various video content analysis techniques...

4.6.6 Transition clause

This is a clause (a group of words containing a subject and a verb) that shows how two sentences or paragraphs are linked. It summarizes the previous sentence or paragraph. Here the clause reviews the value of the information in the previous sentence before adding a point about the problems involved.

EXAMPLE

In summary, captions in video frames provide highly condensed information about the contents of the video and can be used for video skimming, browsing, and retrieval in large video databases. Although embedded text/captions provide important information about the image, it is not an easy problem to reliably detect and localize text/captions embedded in images.

4.6.7 Transition sentence

When the logical relationship between the paragraphs is more complicated, writers use a sentence to indicate how they are linked. The sentence example summarizes all previous research methods before introducing the proposed method in the paper.

EXAMPLE

This texture-based method was applied to a variety of still images with an acceptable performance. All the above text detection methods were applied on uncompressed images, even though they are designed for digital images and video. None of the previously published algorithms utilized features present in the compressed domain to locate the text directly in compressed images.

In longer documents, transition sentences or even whole paragraphs can describe other sections of the paper. This is especially true in thesis and dissertation writing.

EXAMPLE

The rest of the paper is organized as follows: We describe the details of the proposed method in Section 2, which includes texture feature extraction from MPEG compressed domain and the refinement of the text candidate blocks. The experimental results and performance evaluation are presented in Section 3. Section 4 summarizes the paper and presents future work.

Source of all the transition examples: Zhong et al.:IEEE Transactions on pattern analysis and machine intelligence, Vol. 22, No. 4, p. 385. © IEEE 2000

Transition signals are related to the function of the paragraph. The use of a particular transition signal is related to the logic of the connection between the sentences or paragraphs. The following chart summarizes the key choices when comparing or contrasting, adding information, or indicating cause and effect.

4.6.8 Chart of transition signals

Meaning/ Function	Sentence connectors	Clause connectors		Others (adjectives, verbs, and prepositions)
		Coordinators	Subordinators	
To introduce a similar additional idea	also besides furthermore in addition moreover too	and nor		another an additional
To compare things	also likewise similarly too	and both X and Y neither X nor Y	as just as	as ... as like/alike just like similar to be alike be similar
To introduce an opposite idea, and to contrast things	however in contrast instead in/by comparison nevertheless on the other hand on the contrary	but yet	although even though though whereas while	despite in spite of compared to/with be different (from) be unlike differ (from)
To introduce an example	for example for instance			such as like an example of
To emphasize	in fact, indeed,	not only X but also Y		
To explain and restate	that is			
To introduce an alternative	otherwise	or	if unless	
To signal time	first, second, third. then, next, now, last, finally, after that, since then,		after as as soon as before since until when while	the first the second the next before afterwards

Meaning/ Function	Sentence connectors	Clause connectors		Others (adjectives, verbs, and prepositions)
		Coordinators	Subordinators	
To indicate order of importance	most importantly, significantly primarily			a more important the most important the primary
To introduce a cause or reason		for	because since as	result from be the result of due to because of the consequence of
To introduce an effect or result	accordingly as a result as a consequence consequently hence thus therefore			the effect of have an effect on the reason for as a result of as a consequence of
To conclude	in brief in conclusion in short in summary	so		It is clear that X We can see that X The evidence suggests that X These examples show that X

Source: Adapted from Oshima and Hogue (2006) 4th Ed. *Writing academic English*. Pearson: NY

TIP

These websites have more useful information on how to use transitions.

<http://www.io.com/~hcexres/textbook/structov.html>

<http://www.wisc.edu/writing/Handbook/Transitions.html#words>

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