

1.1 Cohesion

Cohesion refers to the connection of ideas at the sentence level. Cohesive devices are the strategies writers use to create cohesion across and within sentences. The most important cohesive device is the **old to new information pattern**. When using this pattern, information that is already known is given before information that is being introduced for the first time.

Task 1 — Notice in the example how the new information (in blue) refers back to the old information (in red) that came earlier in the text.

This latest study shows that at least some Wolf-Rayet stars do become supernovae. The team looked at the spectrum of a supernova known as SN 2019hgp, which was discovered by the Zwicky Transient Facility (ZTF). The supernova's spectrum had bright emission light indicating the presence of carbon, oxygen, and neon, but not hydrogen or helium. When the team looked at the data more closely, they found these particular emission lines weren't caused by elements of the supernova directly. Instead, they were part of a nebula expanding away from the star at more than 1,500 km/s.

Task 2 — Now read the following paragraph and note down the cohesive devices.

¹Computer viruses are software codes that replicate themselves once they gain entry into a computer program. ²Once in the system, the virus proceeds to infect entire networks. ³Computer viruses are designed by people who specifically intend to infect systems in a network. ⁴The software they create is given the classification malware, coined from the Latin *mal*, meaning bad. ⁵Malware includes viruses, worms, Trojans and bots. ⁶The most common types are viruses and worms. ⁷Viruses propagate themselves when someone inadvertently opens a file with the malware attached, and once it infects one computer, it goes onto spread to other computers. ⁸In contrast, worms are more insidious and copy themselves to a new host via information-sharing features or other security holes in a system. ⁹While worms tend to spread more quickly, viruses are often more detrimental because they are specifically designed to destroy or steal information. ¹⁰Other pernicious software includes Trojan horses, which are malware hidden within what appears to be safe information, and bots, which are malware that gives the code writer control over the computer the virus has accessed.

¹ What do the words **themselves** and **they** refer back to in sentence 1?

² Can you name the cohesive device in sentence 2?

³ What phrase in sentence 3 echoes information from sentence 2?

⁴ What does the word **they** refer back to in sentence 4?

⁵ What synonyms for **virus** are used in the text?

⁶ What does the word **types** refer back to in sentence 6?

⁷ What does the pronoun **it** refer back to in sentence 7?

⁸ What is a synonym for the word **host** in sentence 8?

⁹ Can you name the cohesive device in sentence 9?

¹⁰ What word earlier in the paragraph does **code writer** refer to in sentence 10?

Cohesive devices	Examples
<p>Repetition of key words using different forms of the word or synonyms.</p>	<p>The doctors were not able to contain the virus. This inability to prevent the spread of the disease caused millions of people to become infected.</p>
<p>Reference to previous information by using one of the following:</p> <ul style="list-style-type: none"> • Demonstrative determiners (<i>this, that, these, those</i>) • Comparatives (<i>another, the other, others, number + other(s), such</i>) • Pronouns (<i>he, them, me</i>) • Possessive pronouns (<i>your, their, hers</i>) • Relative pronouns (<i>which, who, whose</i>) 	<p>The doctors were not able to contain the virus. This inability to prevent the spread of the disease caused millions of people to become infected.</p> <p>There are many other types of malware besides viruses. Worms, bots, and Trojans are three others.</p> <p>The 36-year old epidemiologist, who contracted the Ebola virus, was admitted to hospital for treatment.</p>
<p>Cohesive nouns preceded by a referent. These types of nouns can summarize many words using just one noun. (<i>these arguments, these advantages, these solutions, such difficulties, this method</i>)</p>	<p>As a result of this treatment, the patient was able to fully recover. Their methods were successful in treating the virus.</p>
<p>Topic introducer followed by a referent and a noun or noun phrase (<i>concerning, regarding, in reference to, as for, in regard to, related to, instead</i>)</p>	<p>In regard to other types of malware, worms are much more insidious than viruses. Concerning the symptoms he experienced, they have not yet had any long-term effects on his health.</p>
<p>Logical connector followed by a referent and a noun phrase (<i>because of, due to, as a result of, based on, given, in light of, while, regardless of, despite, similar to, in contrast to, in comparison to, unlike, in addition to</i>)</p>	<p>In contrast to the computer’s immune system, a natural immune system has the ability to continue functioning after it has been infected with a virus. Given these findings, isolated facilities should remain open.</p>

source: Norloff, Renehan, 2017. University Success Transition Level Writing, MyEnglishLab; Pearson Education, Inc., p.68.

Task 3 — Now rewrite the following sentences using cohesive devices.

1. There have been new discoveries in the area of supernovae explosions. It may be easier to better understand the hydrodynamic behavior of supernovae.
2. This essay will discuss supernovae explosions. We will examine the mechanisms for initiating gravitational instability.
3. It will take more observations to determine the details. Some Wolf-Rayet stars do not go silently into the night.
4. Cosmic rays are mostly nuclei of atoms, especially hydrogen. There are other subatomic particles that can come from the Sun, from different sources within the Milky Way or even from other galaxies.
5. Pulsars stand out for their rapid rotation, up to hundreds of times per second. They emit a beam of light from both poles that, like a lighthouse, regularly crosses our line of sight.
6. Sagittarius A* (*Sagittarius A Star* or SgrA*) is the closest supermassive black hole to Earth. It is the ideal candidate to study what happens in the vicinity of these objects.
7. Our Solar System lies in the plane of the Milky Way. There are large amounts of gas and dust. The dust limits observations to radio waves, infrared and X-rays. They can pass through it, but still suffer from the scattering caused by the gas clouds.