

## Abstracts

Abstracts provide a summary and preview of an academic work, such as an article, research proposal, or conference presentation. Abstracts are the first part of an article that readers will see: They set expectations and help readers understand what will come next. All abstracts used in this handout are from published articles from biology, business, linguistics, nursing, and neuroscience.

### Why are abstracts important?

Abstracts are used in a variety of academic contexts. First, readers use them to decide if an article belongs in their research and warrants being read completely. Second, many professional and research conferences require presenters to submit an abstract before being accepted. Third, writers use abstracts in their research papers and often in applications for funding opportunities.

### What is the basic structure of abstracts?

Abstracts vary some by discipline, but within a discipline, they often follow predictable patterns. Some general observations can be made. Abstracts are usually 100 to 300 words long. They use cited references sparingly. They are meant to stand alone and be understood without the larger work. Each sentence has a particular job or function.

Hyland (2007) introduces a five-part model he observed across academic articles. Abstracts commonly have these parts: *introduction*, *purpose*, *method*, *result*, and *conclusion*. Each part has a different communicative goal or specific function. Most abstracts examined had *purpose*, *method*, and *result* with about half including a clear *introduction* and *conclusion*.

Table 1: Model of Abstract (Adapted from Hyland, 2007)

	Part	Function	Key Phrase Example
1	Introduction	Establishes paper's context and motivates the research or discussion	"Within the framework of genre analysis" "This study builds on earlier research ..."
2	Purpose	Indicates purpose or thesis, outlines the aim behind the paper	"This study examines..." "The aim of this study is..." "This study addresses a gap"
3	Method	Provides information on design, procedures, data analysis, etc.	"A quantities analysis was used..."
4	Result	Indicates results and key findings	"The results show that..."
5	Conclusion	Points to applications or wider implications and interpretation scope	"The results confirm previous studies that..."

Table 2: Biology abstract utilizing five parts (labeled).

[**Introduction**] In many forest ecosystems, green leaf deposition (greenfall) constitutes an enrichment over background levels of litterfall nutrients and may therefore influence key ecosystem processes. [**Purpose**] This study examined the litter quality and decomposition rates of green leaves compared to senescent litterfall for four dominant tree species (*Dacryodes excelsa*, *Manilkara bidentata*, *Guarea guidonia*, and *Cecropia schreberiana*) in a lower montane rain forest at El Verde Field Station, Luquillo Experimental Forest, Puerto Rico. [**Method**] Green leaves from the canopy and freshly senesced leaves from the forest floor were analyzed for carbon, nitrogen, and fiber and placed in litterbags in the field for up to 16 weeks. [**Result**] Green leaves displayed significantly higher rates of decompositions than did senescent litter among all four species. [**Result**] Green leaves also had significantly higher nitrogen concentrations and lower lignin to nitrogen ratios compared to senescent leaves. [**Conclusion**] These results suggest that greenfall may have a major influence on decay processes and nutrient cycling in forests that experience large-scale green foliage removal.

Fonte and Schowalter, “Decomposition of Greenfall vs. Senescent Foliage in a Tropical Forest Ecosystem in Puerto Rico,” *bioTROPICA*, 2004.

What are examples of key phrases from Table 2 that help identify each part?

	Part	Function	Key Phrase Example
1	Introduction	Establishes paper’s context and motivates the research or discussion	“influence key...processes”
2	Purpose	Indicates purpose or thesis, outlines the aim behind the paper	“This study examined”
3	Method	Provides information on design, procedures, data analysis, etc.	“were analyzed”
4	Result	Indicates results and key findings	“displayed significantly higher rates”
5	Conclusion	Points to applications or wider implications and interpretation scope	“These results suggest ... may have major influence on ...”

Table 3: Business abstract utilizing four parts (labeled).

[**Introduction**] E-commerce is undergoing an evolution through the adoption of Web 2.0 capabilities to enhance customer participation and achieve greater economic value. [**Purpose**] This new phenomenon is commonly referred to as *social commerce*; however, it has not yet been fully understood. [**Purpose**] In addition to the lack of a stable and agreed-upon definition, there is little research on social commerce and no significant research dedicated to the design of social commerce platforms. [**Method**] This study offers literature review to explain the concept of social commerce, tracks its nascent state-of-the-art, and discusses relevant design features as they relate to e-commerce and Web 2.0. [**Method**] We propose a new model and a set of principles for guiding social commerce design. [**Method**] We also apply the model and guidelines to two leading social commerce platforms, Amazon and Starbucks on Facebook. [**Result**] The findings indicate that, for any social commerce website, it is critical to achieve a minimum set of social commerce design features. [**Result**] These design features must cover all the layers of the proposed model, including the individual, conversation, community and commerce levels.

~Huang and Benyoucef, “From e-commerce to social commerce: A close look at design features,” *Electronic Commerce Research and Application*, 12(4) 2013.

**What are examples of key phrases from Table 3 that help identify each part?**

	<b>Part</b>	<b>Function</b>	<b>Key Phrase Example</b>
1	Introduction	Establishes paper’s context and motivates the research or discussion	“... is undergoing an evolution...”
2	Purpose	Indicates purpose or thesis, outlines the aim behind the paper	“...has not yet been fully understood” “... is little research on...”
3	Method	Provides information on design, procedures, data analysis, etc.	“This study offers..., tracks... and discusses...” “apply the model and guidelines to...”
4	Result	Indicates results and key findings	“The findings indicate...” “...it is critical...”
5	Conclusion	Points to applications or wider implications and interpretation scope	

## Activity 1: Learn About Abstracts in Your Field

Navigate to Google Scholar or your library database. Find several articles on a high interest topic for your chosen field (e.g., *context collapse* for linguistics or *Alzheimer's treatment* for medicine). Consider choosing well-known journals (e.g., *Nature* or *SIGGRAPH*) or articles that have been cited many times.

Open several articles and review their abstracts. Compare them to Hyland's model. What is similar? What is different? What patterns seem most common? What is the average length?

## Activity 2: Label Abstract Parts

Using Hyland's Model (*introduction, purpose, method, result, and conclusion*), label each sentence's function in the three abstracts samples. Remember not all abstracts have all five parts, and some have multiple sentences that have the same function, e.g., two *purpose* or *result* sentences. The sample answer key is on page seven.

### Sample 1: Linguistic Abstract

[A. \_\_\_\_\_ ] Social media technologies collapse multiple audiences into single contexts, making it difficult for people to use the same techniques online that they do to handle multiplicity in face-to-face conversation. [B. \_\_\_\_\_ ] This article investigates how content producers navigate 'imagined audiences' on Twitter. [C. \_\_\_\_\_ ] We talked with participants who have different types of followings to understand their techniques, including targeting different audiences, concealing subjects, and maintaining authenticity. [D. \_\_\_\_\_ ] Some techniques of audience management resemble the practices of 'micro-celebrity' and personal branding, both strategic self-commodification. [E. \_\_\_\_\_ ] Our model of the networked audience assumes a many-to-many communication through which individuals conceptualize an imagined audience evoked through their tweets.

Marwick and Boyd, "I tweet honestly, I tweet Passionately: Twitter Users, Context Collapse, and the Imagined Audience," *New Media & Society*, 13(1) 2011.

## Sample 2: Nursing Abstract

[A. \_\_\_\_\_ ] High rates of mental health problems in adolescents have been well documented; less is known about elementary school children in disadvantaged communities. [B. \_\_\_\_\_ ] We examined emotional and behavioral health needs in 202 third and fourth graders enrolled in a charter school in a largely Hispanic community. [C. \_\_\_\_\_ ] The child-reported Revised Child Anxiety and Depression Scale-25 and Teacher's Report Form were used to evaluate mental health needs as perceived by these children and their teachers. [D. \_\_\_\_\_ ] The prevalence of teacher-reported depression and child self-reported anxiety was 7.0% and 6.67%, respectively. [E. \_\_\_\_\_ ] Living in a single parent household was found to be a specific risk factor in that those children had higher rates of emotional and behavioral problems than children living with both parents. [F. \_\_\_\_\_ ] Evidence of higher depression and anxiety identified in this sample compared to national representative data suggests the need for development of culturally sensitive early prevention and intervention in this underserved community.

Guo, Rousseau, and Hsu, "Emotional and Behavioral Health Needs in Elementary School Students in an Underserved Hispanic Community," *The Journal of School Nursing*, 35(2) 2019.

## Sample 3: Neuroscience Abstract

[A. \_\_\_\_\_ ] Neural plasticity, the ability of neurons to change their properties in response to experiences, underpins the nervous system's capacity to form memories and actuate behaviors. [B. \_\_\_\_\_ ] How different plasticity mechanisms act together in vivo and at a cellular level to transform sensory information into behavior is not well understood. [C. \_\_\_\_\_ ] We show that in *Caenorhabditis elegans* two plasticity mechanisms-sensory adaptation and presynaptic plasticity-act within a single cell to encode thermosensory information and actuate a temperature preference memory. [D. \_\_\_\_\_ ] Sensory adaptation adjusts the temperature range of the sensory neuron (called AFD) to optimize detection of temperature fluctuations associated with migration. [E. \_\_\_\_\_ ] Presynaptic plasticity in AFD is regulated by the conserved kinase nPKC $\epsilon$  and transforms thermosensory information into a behavioral preference. [F. \_\_\_\_\_ ] Bypassing AFD presynaptic plasticity predictably changes learned behavioral preferences without affecting sensory responses. [G. \_\_\_\_\_ ] Our findings indicate that two distinct neuroplasticity mechanisms function together through a single-cell logic system to enact thermotactic behavior.

Hawk et al, "Integration of Plasticity Mechanisms within a Single Sensory Neuron of *C. elegans* Actuates a Memory," *Neuron*, 97(2), 2018.

### Activity 3: Identify Sample Phrases

Reread the three abstract samples. Identify phrase examples that signal what function a sentence is doing. From the three abstracts, find at least two examples for each part. You can look at page 2 and 3 for models.

	<b>Part</b>	<b>Function</b>	<b>Key Phrase Example</b>
1	Introduction	Establishes paper's context and motivates the research or discussion	
2	Purpose	Indicates purpose or thesis, outlines the aim behind the paper	
3	Method	Provides information on design, procedures, data analysis, etc.	
4	Result	Indicates results and key findings	
5	Conclusion	Points to applications or wider implications and interpretation scope	

### Activity 2: Sample Answer Key

Abstract Sample 1: A) Introduction, B) Purpose, C) Method, D) Result, E) Conclusion

Abstract Sample 2: A) Introduction/Purpose (combined), B) Method, C) Method, D) Result, E) Result, F) Conclusion

Abstract Sample 3: A) Introduction, B) Purpose, C) Result, D) Result, E) Result, F) Result, G) Conclusion

### Activity 3: Sample Answer Key

	Part	Function	Key Phrase Example
1	Introduction	Establishes paper's context and motivates the research or discussion	"... have been well documented; less is known..." "... is not well understood..."
2	Purpose	Indicates purpose or thesis, outlines the aim behind the paper	"This article investigates how..." "...less is known about..."
3	Method	Provides information on design, procedures, data analysis, etc.	"We talked to participants..." "Child Anxiety and Depression Scale-25 and Teacher Report Forms were used to evaluate ...."
4	Result	Indicates results and key findings	"Some techniques ... resemble the practices..." "We show that..." "...was found to be a specific risk factor"
5	Conclusion	Points to applications or wider implications and interpretation scope	"Our findings indicate that ..." "data suggests..."

### References

Hyland, Ken. *Disciplinary Discourses: Social Interactions in Academic Writing*. London, UK: Longman, 2007.