# Abstract writing 101

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# Why Abstracts are Important

- Presents **detailed information** in a clear but brief paragraph
- Aids in **sorting information** in short format for possible **database searches**
- Gives the researcher the opportunity to **highlight important aspects of their work**
- Reader can decide if he/she wants to **read more** about the research outcome(s)

https://owl.purdue.edu/owl/purdue_owl.html

# Types of Abstracts: **Critical**

"A critical abstract provides, in addition to describing main findings and information, a judgment or comment about the study's validity, reliability, or completeness. **The researcher evaluates the paper and often compares it with other works on the same subject**. Critical abstracts are generally **400-500 words** in length due to the additional interpretive commentary. These types of abstracts are used **infrequently**."

https://libguides.usc.edu/

# Types of Abstracts: **Descriptive**

"A descriptive abstract indicates the type of information found in the work. **It makes no judgments about the work, nor does it provide results or conclusions of the research**. It does incorporate key words found in the text and **may include the purpose, methods, and scope of the research**. Essentially, the descriptive abstract **only describes the work being summarized**. Some researchers consider it an outline of the work, rather than a summary. Descriptive abstracts are usually very short, **100 words or less**."

https://libguides.usc.edu/

# Types of Abstracts: **Informative**

"The majority of abstracts are informative. While they still do not critique or evaluate a work, they do more than describe it. A good informative abstract acts as a surrogate for the work itself. That is, the **researcher presents and explains all the main arguments and the important results and evidence in the paper**. An informative abstract **includes the information that can be found in a descriptive abstract [purpose, methods, scope] but it also includes the results and conclusions** of the research and the recommendations of the author. The length varies according to discipline, but an informative abstract is usually no more than **300 words** in length."

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# Types of Abstracts: **Highlight**

"A highlight abstract is specifically written to **attract the reader's attention to the study**. No pretense is made of there being either a balanced or complete picture of the paper and, in fact, incomplete and leading remarks may be used to spark the reader's interest. In that a highlight abstract **cannot stand independent of its associated article**, it is **not a true abstract** and, therefore, **rarely used in academic writing.**"

https://libguides.usc.edu/

# Abstracts should **NOT** contain

- Lengthy background or context-based information
- Needless phrases, unnecessary adverbs and adjectives, and repetitive information
- Acronyms or abbreviations
- References to other literature [say something like, "current research shows that..." or "studies have indicated..."]
- Using [i.e., ending with "..."] or incomplete sentences
- Words or terms that may be confusing to the reader (slang)
- Citations to other works
- Any sort of image, illustration, figure, or table, or references to them

# Effective Abstract Writing

- One or two well-developed paragraphs; **uniform, coherent, concise** (200-250 words)

- Follows a **chronological order** throughout the paper (purpose, research question(s), brief methods, results, conclusions, and future implications

- Adds **no new information** - only summarizes paper

- Contains **stand-alone qualities** - the abstract can be understood without reading the paper

- **Easily understood** to a wide audience

# The Mechanics of Writing an Abstract

| | |
|---|---|
| Remember | An abstract usually contains topic, research question, methods, results, and conclusion. |
| Read | Read the **entire paper**. Highlight or underline key points |
| Create | After you finish reading, create your abstract step-by-step based on your underlined material. |

Find 1-3 introduction sentences that explain topic, purpose, and research question(s).

Find 1-3 sentences describing your research methods (this may also include the type of data analysis you used).

Find 1-3 sentences describing the key results/findings. Statistics are important here.

Find 1-3 sentences containing your conclusions and future implications.

# Step-by-Step Process of Abstract Writing

# Revise!
# Revise!
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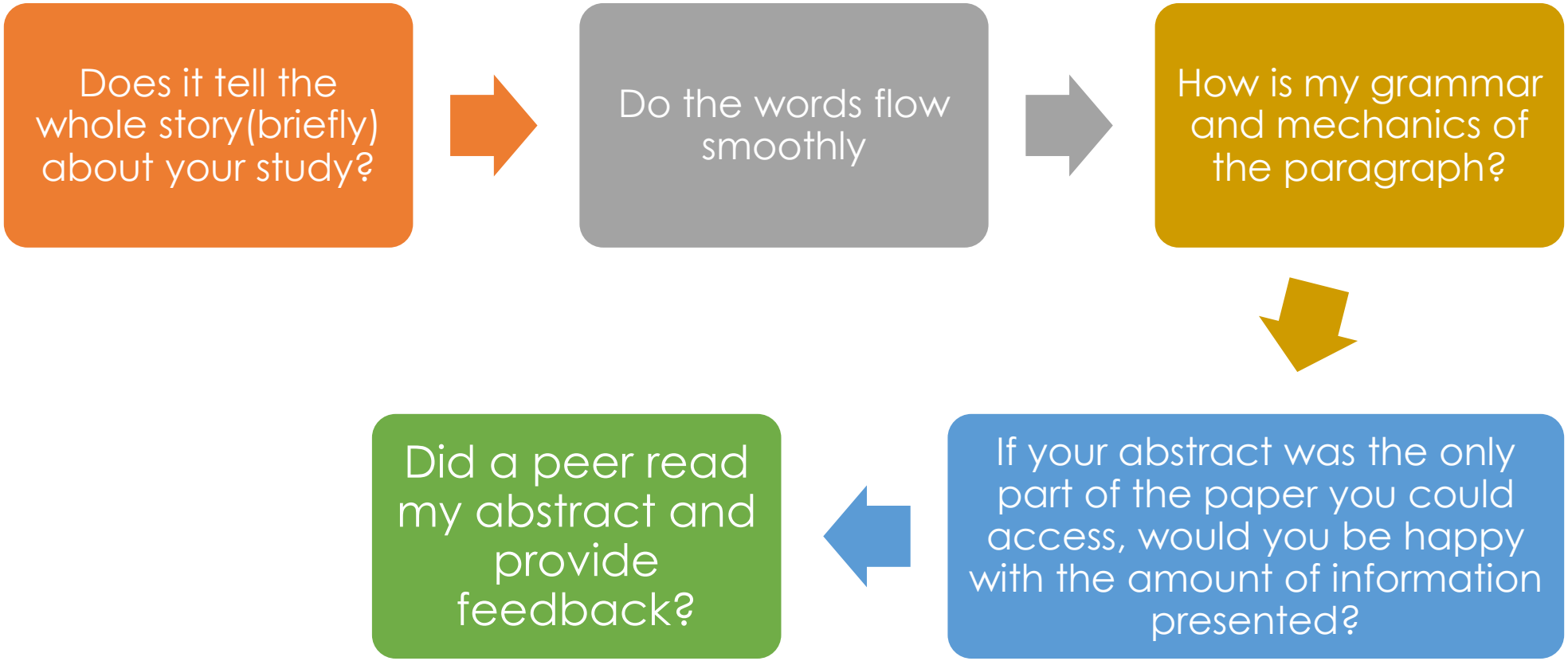
- Read your abstract **all the way through**… then:
  - add transition words to tie ideas together,
  - remove unnecessary content, add in things that are missing,
  - correct errors in grammar and mechanics; proofread!




# Questions to Ask Yourself

# Science News Journals

## USING SN TO PRACTICE ABSTRACT WRITING

# Examples of a Scientific Abstract using Science News

***Article 1:***

Burned by Shingles: When varicella zoster reawakens, watch out

https://www.sciencenews.org/article/shingle-virus-rash-chicken-pox-complications

hle for chicken pox reemerges — sometimes decades after that first infection — it c

# *Abstract 1*

Varicella-zoster virus (VZV), an alphaherpesvirus, establishes latent infection in 95% of the United States Population and reactivates in over a third of adults to cause shingles. VSV's reactivation is most noticeably discriminant to age, establishing a near 5-to-1 dominance in people over age 65 than the rest of the population. However, despite originating from VZV in nature, shingles' effects are much more far-reaching than thought, leading to cases of stroke, artery damage, and long-term pain. Unfortunately, the degree to which latency is established is derivative. We find that work in virology established a new transcript for VZV, a virus latency-dormant VZV. The spliced VLT is expressed in human TG neurons, especially in shingles skin lesions. While multiple VLT alternate isoforms are expressed during lytic infection, only a single isoform is expressed in latency. There may exist many ways to alter the progression of VZV, specifically through VLT, yet they are not fully researched. However, vaccines like Zostavax prove to be an inhibitor of reactivation today, showing nearly seven times as much effectiveness as the placebo group in a survey of two different groups of 19,200 American adults. As vaccine alternative are researched, the extent of shingles continues to be an ever-malignant plight, and the discovery of VLT links VZV to other better-understood alphaherpesviruses and provides insight into VZV.

Reference:
Cunningham, A. (2019, March 2). Shingles' Sneak Attack. *Science News*, 22 – 26.

# Article 2:

- Walk This Way: Culture helps shape when babies get up and go

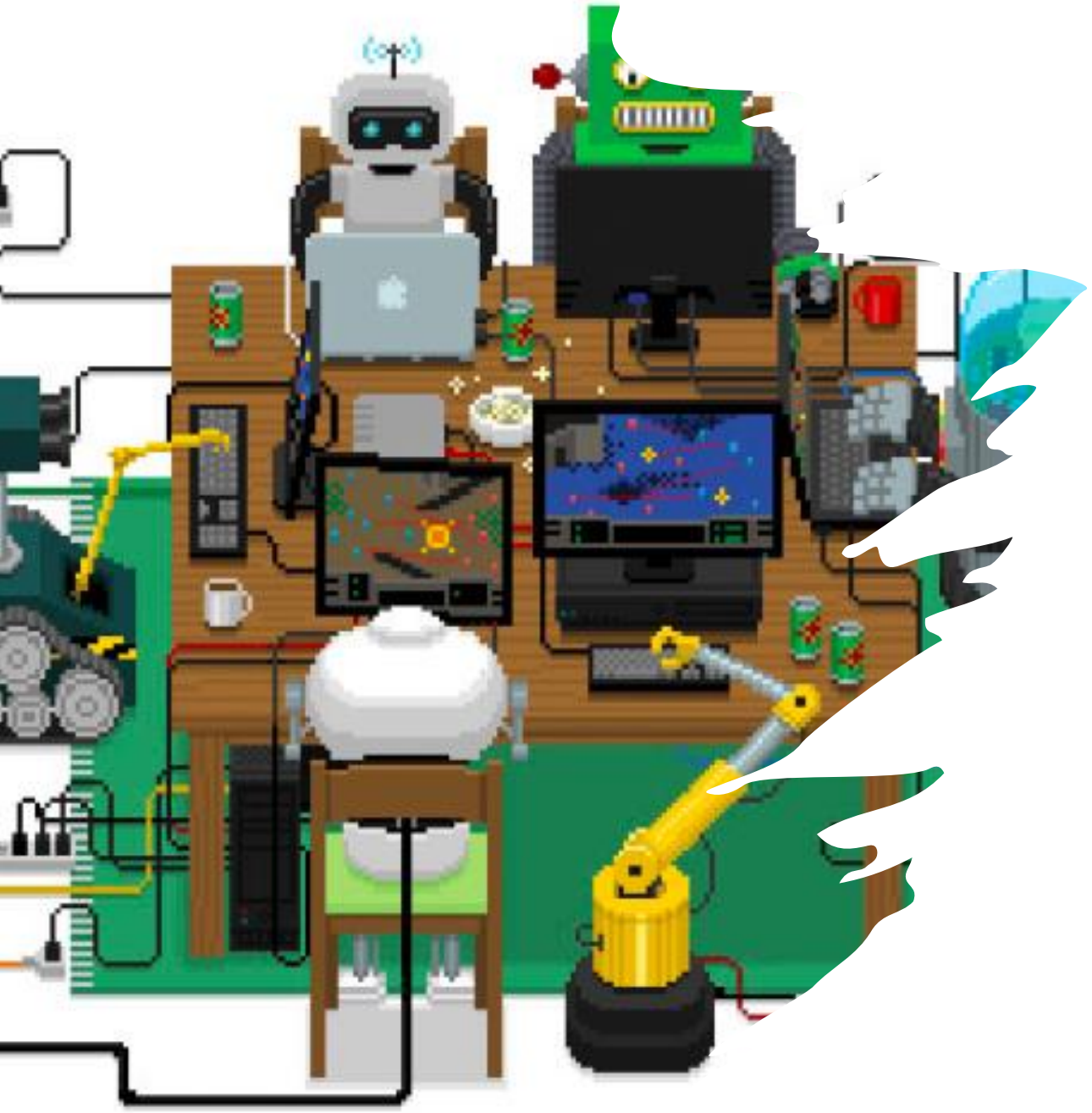
https://www.sciencenews.org/article/culture-helps-shape-when-babies-learn-walk

# *Abstract 2*

Child development researchers have recently begun to expand the medically considered norms of infant development. Standards of practice for pediatricians have always been based on Western studies with white infants. Recent studies are finding cultural differences are playing a large roles in the variances found in development of motor skills in infancy across the globe. Tijikistan mothers use a cradle-like device called a gahvora which strap down the baby into a suction with a hole open at the baby's bottom and a bucket to catch excretions. Tajik custom is that the restriction of the gahvora teaches babies patience and restraint. Lena Karasik, a developmental psychologist, led an investigation comparing development of Tajik babies and thirty, 9-month old babies from Minnesota. Using an eye tracker, babies involved in the study watch two cartoon animals bounce on a screen. If they have developed the ability to pair sights and sounds, they will follow the cartoon which bounces accompanying the sound of a "doink". Karasik will then compare motor development through their ability to match sights and sounds. Future work includes conducting a temperament study to further test if the gahvora affects Tajik children's behavior. Cultural influence is a major component of child development, and the acceleration or deceleration of any stage of motor still development can be morphed by the mothers' own customs not necessarily by the child's biological development.

Reference:

Gupta, S. (2019, September 14). Walk This Way. *Science News*, 16-21.



o games can pick up all kinds of skills.

# *Article 3*

AI at Play: When computers take a seat at the game table, they learn real-world skills

https://www.sciencenews.org/article/ai-learns-playing-video-games-starcraft-minecraft

# *Abstract 3*

Computer games are becoming increasingly popular in testing the adaptivity of AI algorithms. In the past, simple games such as chess and Go have been used for similar purposes. However, other games with higher levels of complexity and more nuances make them excellent tools to test how well an AI is able to process human-level thinking, reasoning, and cooperation. Through matches with human players and models of the different situations in games, researchers can observe the effects of new developments on AI technologies in applications. This article reviews several instances where the researchers use computer games to access the extents to which the AI algorithms successfully deal with challenges assigned to them. The games StarCraft was used to test the influences of the structural differences among the individuals on the outcomes. It focused on the dependence of each individual unit on one another and generalized the performances in the game to real world scenarios where whether acting under command or acting individually depends on the availability of other technologies. The ability for continuous learning under reinforcements of some algorithms was roved under tasks in Minecraft, where knowledge-accumulating AI outperforms the discrete-task AI. This situation highly exemplifies the human learning process as an iterative and adaptive one. Despite the advantages of using computer games to study the AI performances, more attention needs to be paid on closing the gap between the modeled world and the reality to increase the reliance of such studies.

Reference:

Temming, M. (2019, May 11). AI at Play. *Science News*, 34 – 39.

# References


- *OWL Purdue*. (2020, January). Retrieved August 2020, from OWL Online Writing Lab: https://owl.purdue.edu/owl/research_and_citation/using_research/writing_scientific_abstracts_presentation.html
- *Society for Science and the Public*. (2000-2020). Retrieved August 2020, from Science News in the Classroom: https://www.sciencenews.org/snhs
- *USC Library Guides: Research*. (2020, January). Retrieved August 2020, from University of South Carolina: https://libguides.usc.edu/writingguide/abstract#:~:text=An%20abstract%20summarizes%2C%20usually%20in,as%20a%20result%20of%20your