

# **DEN SLAKTADE ARTIKELN.**

## **En övning i att läsa vetenskapliga artiklar.**

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UMEÅ UNIVERSITET

# Bakgrund

## En del studenter har ...

- svårt att identifiera texttyper
- svårt att läsa vetenskapliga texter
- problem med att hänvisa på rätt sätt till de källor de använder

## Hur stöttar jag studenter ...

- Utan att det tar för mycket tid och fokus från deras ämnesstudier?



# Fyndet!

- ”How to read Scientific Research Articles: A Hands-On Classroom Exercise.” DOI: <https://doi.org/10.29173/istl2504>

ARTIKEL

**How to read scientific research articles: A hands-on classroom exercise**  
Bogucka, Roxanne ; Wood, Emily  
Issues in science and technology librarianship, 2009, Vol.59 (59), p.NP-NP  
“ Undergraduate students are generally unfamiliar with scientific literature. Further, students experience frustration when they read research articles the way they read textbooks, from beginning to end...” ”

PEER REVIEWED

[Tillgänglig online >](#)

SKANNA QR-KOD   KOPIERA LÄNK   SKAPA REFERENS   EXPORTERA I .RIS   SKICKA TILL ENDNOTE ONLINE   SKICKA SOM E-POST   SKRIV UT

APA  
**Harvard**  
IEEE  
Oxford  
Vancouver

Bogucka, R. and Wood, E. 2009. How to read scientific research articles: A hands-on classroom exercise. *Issues in science and technology librarianship*. 59(59), NP-NP.

**KOPIERA REFERENS**

**Kom ihåg att kontrollera att referensen är korrekt innan du inkluderar den i ditt arbete**

# Första försöket

En grupp studenter (25-30)

Inledande föreläsning/presentation av vetenskapliga artiklar och IMRaD-formatet

Plus en enkel övning - ”sortera artiklar”



# SORTERA ARTIKLAR



# ÖVNINGEN: "DEN SLAKTADE ARTIKELN"

**Steg 1** – övningen börjar med bikupa där de parvis utbyter erfarenheter av att läsa vetenskapliga artiklar

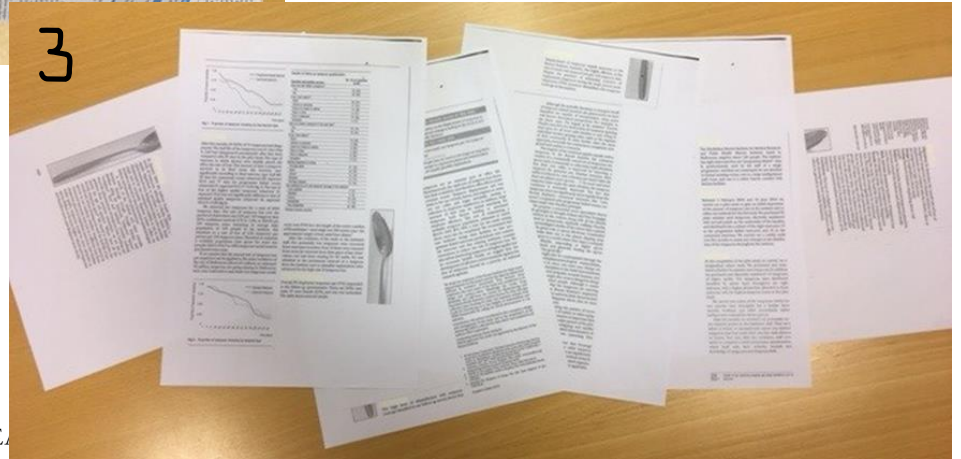
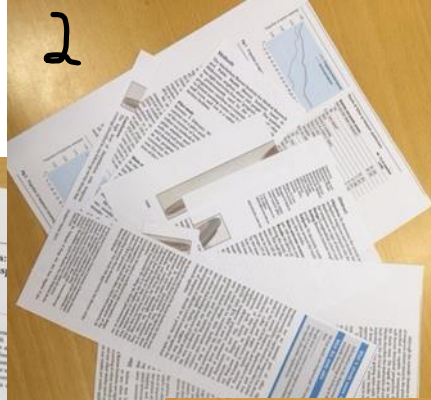
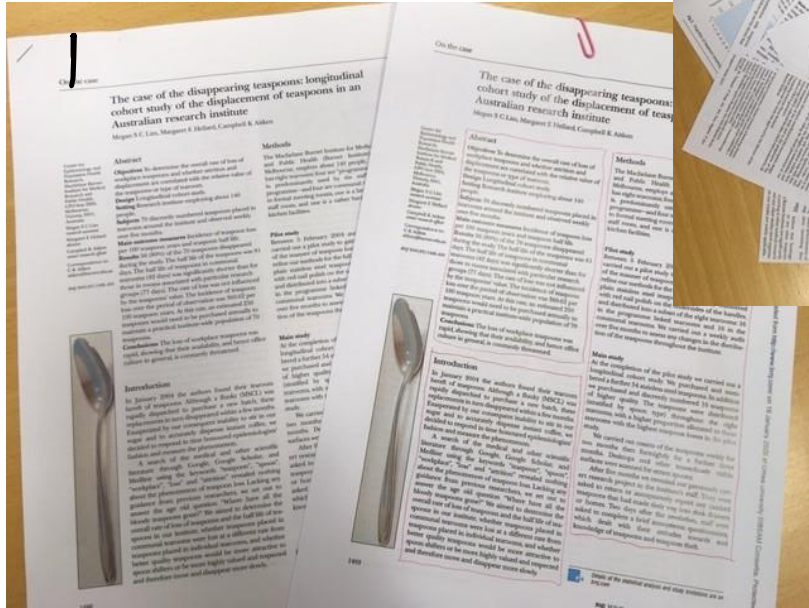
**Steg 2** – jag förklarar att de får en bit av artikeln och nio (9) frågor. De ska **undersöka om det finns svar på frågorna** i den del av artikeln de fått

**Steg 3** – alla som fått samma del samlas och jämför vad de kommit fram till.

**Steg 4** – omgruppering (Varje grupp har alla delar av artikeln. Ny jämförelse av vilka frågor som besvaras av vilken del av artikeln. Och vem läste vilken del (I, M R eller D-delen) av artikeln.



# Producera övningen



0 valda SIDA 1 12 träffar

1 ARTIKEL  
**Disappearing teaspoons: Teaspoons may reappear**  
 Darton, Katherine  
 BMJ, 2006, Vol.332 (7533), p.121-121  
 PEER REVIEWED OPEN ACCESS  
[Tillgänglig online](#)  
[Oppna i Browzine](#)

2 ARTIKEL  
**Disappearing teaspoons: Spoon solution**  
 Watts, Trevor  
 BMJ, 2006, Vol.332 (7533), p.121-121  
 PEER REVIEWED OPEN ACCESS  
[Tillgänglig online](#)  
[Oppna i Browzine](#)

3 ARTIKEL  
**Disappearing teaspoons: French data**  
 Herer, Bertrand  
 BMJ, 2006, Vol.332 (7533), p.121-121  
 PEER REVIEWED OPEN ACCESS  
[Tillgänglig online](#)  
[Oppna i Browzine](#)

4 ARTIKEL  
**Disappearing teaspoons: Teabags and forks are confounding factors**  
 Woodall, Alan A  
 BMJ, 2006, Vol.332 (7533), p.121-121  
 PEER REVIEWED OPEN ACCESS  
[Tillgänglig online](#)  
[Oppna i Browzine](#)

5 ARTIKEL  
**The case of the disappearing teaspoons: longitudinal cohort study of the displacement of teaspoons in an Australian research institute**  
 Lim, Megan S C ; Hellard, Margaret E ; Aitken, Campbell K  
 International edition  
 BMJ, 2005, Vol.331 (7531), p.1498-1500  
 Objectives To determine the overall rate of loss of workplace teaspoons and whether attrition and displacement are correlated with the relative value of the teaspoons or type of tearoom...

9 ARTIKEL  
  
**What the forks? A longitudinal quality improvement study tracking cutlery numbers in a public teaching and research hospital staff tearoom**  
 Mattiussi, Mark ; Livermore, Amelia ; Levido, Annabel ; Starr, Therese ; Lassig-Smith, Melissa ; Stuart, Janine ; Fourie, Cheryl ; Dulhunty, Joel  
 Medical journal of Australia, 2020, Vol.213 (11), p.521-523  
 Objectives To evaluate the circulation lifespan of forks and teaspoons in an institutional tearoom...  
 PEER REVIEWED  
[Kontrollera bestånd](#) Universitetsbiblieket Magasin (vP 01357) >  
[Tillgänglig online](#) >  
[Oppna i Browzine](#)

- "Efterföljaren" publ. 2020
- Ursprunglig artikel publ. 2005





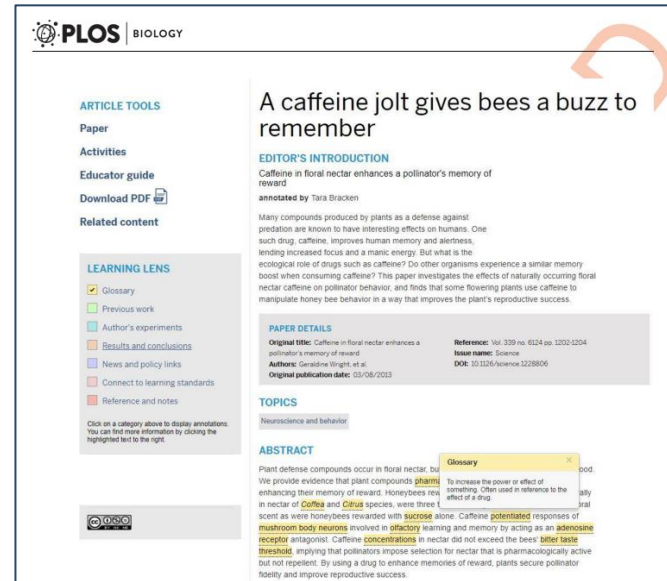
Citat:

“For the main portion of this exercise, we selected three or four research articles, to produce 12 or 16 article sections. We generated the article sections (figure 1) by:

- locating a PDF of the article
- concealing or effacing the article title and journal title from every page
- masking off sections of text so that the only text, figures, and tables visible are those that belong in a particular section (introduction, materials and methods, data/results, discussion/conclusions) of the paper. (You can do this rather tediously, using paper and a photocopier, or rather easily using Adobe Acrobat's Redaction feature if you have access to it)
- labeling each article section with the name of the first author
- printing out each complete article, plus each article's four masked sections”

# LÄSA HELA ARTIKELN

- Skanna
  - Titel, källa, abstract
- Skumma
  - Rubriker och illustrationer
  - Författarna
  - Se om texten innehåller det du söker
- Läsa (Kan delas upp i två läsningar)
  - Markera sånt du behöver slå upp
  - Skriv upp frågor du kommer på medan du läser
  - Använd en läsmall som stöd
- Återberätta
  - Summera eller parafrasera eller referera



The screenshot shows the PLOS Biology article page for "A caffeine jolt gives bees a buzz to remember". The page includes a sidebar with "ARTICLE TOOLS" (Paper, Activities, Educator guide, Download PDF, Related content) and a "LEARNING LENS" section with various filters. The main content area features the article title, editor's introduction, paper details, and abstract. A "Glossary" overlay is visible, providing definitions for terms like "plant", "pollinator", and "reward".

**ARTICLE TOOLS**

- Paper
- Activities
- Educator guide
- Download PDF
- Related content

**LEARNING LENS**

- Glossary
- Previous work
- Author's experiments
- Results and conclusions
- News and policy links
- Connect to learning standards
- Reference and notes

Click on a category above to display annotations. You can find more information by clicking the highlighted text to the right.

**ARTICLE TOOLS**

**PLOS** BIOLOGY

## A caffeine jolt gives bees a buzz to remember

**EDITOR'S INTRODUCTION**

Caffeine in floral nectar enhances a pollinator's memory of reward

annotated by Tara Bracken

Many compounds produced by plants as a defense against predation are known to have interesting effects on humans. One such drug, caffeine, improves human memory and alertness, lending increased focus and a manic energy. But what is the ecological role of drugs such as caffeine? Do other organisms experience a similar memory boost when consuming caffeine? This paper investigates the effects of naturally occurring floral nectar caffeine on pollinator behavior, and finds that some flowering plants use caffeine to manipulate honey bee behavior in a way that improves the plant's reproductive success.

**PAPER DETAILS**

**Original Title:** Caffeine in floral nectar enhances a pollinator's memory of reward

**Reference:** Vol. 339 no. 6234 pp. 1202-1204

**Author:** Geraldine Wright, et al.

**Issue name:** Science

**DOI:** 10.1371/journal.pbio.10028806

**Original publication date:** 03/08/2013

**TOPICS**

Neuroscience and behavior

**ABSTRACT**

Plant defense compounds occur in floral nectar. We provide evidence that plant compounds (plant) enhancing their memory of reward. Honeybees require nectar of *Coffea* and *Citrus* species, were threefold more likely to visit flowers that contained caffeine. To increase the power of effect of something. Often used in reference to the effect of a drug. Caffeine potentiated responses of mushroom body neurons involved in olfactory learning and memory by acting as an adenosine receptor antagonist. Caffeine concentrations in nectar did not exceed the bees' bitter taste threshold, implying that pollinators impose selection for nectar that is pharmacologically active but not repellent. By using a drug to enhance memories of reward, plants secure pollinator fidelity and improve reproductive success.

Fig 1. Annotated scientific research journal article used in initial implementations showing "Learning Lens" and annotations.  
<https://doi.org/10.1371/journal.pbio.3000103.g001>



# STÖD FÖR ATT SÖKA ARTIKLAR

Sökformulär.docx

## Förberedelser för litteratursökning

Frågeställning: \_\_\_\_\_

Bryt ner i delfrågor som går att besvara.

a) \_\_\_\_\_

b) \_\_\_\_\_

Om du behöver mer plats – kom ihåg att detta är ett Word-dokument.

Sökord (koncept/begrepp)	<b>exempel</b> textislojd		
"Synonym"	sömnad		
Bredare term	slojd		
Smalare term	Svensk textislojd		
Relaterad term	slojd / handskrift		
Alternativa stavningar och varianter	slas "textil art"		

Du får gärna radera exemplet i tabellen ovan. Det är inte alltid det går att fylla alla rutor. Om du tänker att sökord är den ruta är där du ska skriva de/lett ord du kommer på så ska du sedan i synonym fylla i med ord från en ämnesordlista.

Databaser: Notera vilka sökord du använder, i vilka kombinationer och hur många träffar du får samt hur du bedömer träffarna. (Ta skärmdumpar eller skärmslipp, spara sökhistorik)

Databas	Söksträng: antal träffar; valda träffar
	(educator OR instructor) AND attitudes AND "natural sciences" 1 587 träffar Mina valda träffar i tabell på nästa sida
DIVA	Söka andra studenters ex.-arb.
UB:s söktjänst	"One ring to rule them all"...
Ämnesspec db	
Swepub	Denna finns med så det är en bra genväg till svensk forskning
Google och Google Scholar	Google för lex myndigheters webbplatser Google Scholar för att testa sökord för fritextsökning

Sökformulär.docx

Väld källa

Varför / till vad

Metod

McKendree, R. Bud, McKim, A. L., & Pauley, C. M. (2019). Games in Natural Sciences Education: Exploring the Perspectives of Secondary School Educators. *Natural Sciences Education*, 48(1), 1–5.  
https://doi.org/10.4195/nse2019.03.0005

Sökord 1	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR

Metod

Metod	Ämnesord	Ämnesord	Ämnesord	Ämnesord

Lägg till en till två till sökorderna ovan för att förtydliga.

## Formulär för informationsökning

Formulär - textislojd, sökord eller -ord listan

Frågeställning

Den viktigaste frågan till dig är: Vad är ditt huvudsakliga syfte med denna sökning? (Välj ett eller flera alternativ som bäst beskriver ditt syfte)

Varför / till vad

Metod

McKendree, R. Bud, McKim, A. L., & Pauley, C. M. (2019). Games in Natural Sciences Education: Exploring the Perspectives of Secondary School Educators. *Natural Sciences Education*, 48(1), 1–5.  
https://doi.org/10.4195/nse2019.03.0005

Sökord 1	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR
AND	OR	AND	OR	OR

Metod

Metod	Ämnesord	Ämnesord	Ämnesord	Ämnesord

Lägg till en till två till sökorderna ovan för att förtydliga.

## Frågeställningar

Textislojd

Frågeställning

Varför / till vad

Metod

McKendree, R. Bud, McKim, A. L., & Pauley, C. M. (2019). Games in Natural Sciences Education: Exploring the Perspectives of Secondary School Educators. *Natural Sciences Education*, 48(1), 1–5.  
https://doi.org/10.4195/nse2019.03.0005

Lägg till en till två till sökorderna ovan för att förtydliga.

## Frågeställningar

Textislojd

Frågeställning

Varför / till vad

Metod

McKendree, R. Bud, McKim, A. L., & Pauley, C. M. (2019). Games in Natural Sciences Education: Exploring the Perspectives of Secondary School Educators. *Natural Sciences Education*, 48(1), 1–5.  
https://doi.org/10.4195/nse2019.03.0005

Lägg till en till två till sökorderna ovan för att förtydliga.

URLs in this document have been updated. Links enclosed in {curly brackets} have been changed. If a replacement link was located, the new URL was added and the link is active; if a new site could not be identified, the broken link was removed.



## How to Read Scientific Research Articles: A Hands-On Classroom Exercise

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### Abstract

Undergraduate students are generally unfamiliar with scientific literature. Further, students experience frustration when they read research articles the way they read textbooks, from beginning to end. Using a team-based active learning exercise, an instruction librarian and colleagues at University of Texas at Austin introduce nutritional sciences students to a method for reading research papers. Librarians provide student-pairs with one section (introduction, methods, results, or discussion) of a scientific research article. Student-pairs read, discuss, and take notes, then join with pairs assigned the other sections of the article to compare their understanding of the research presented. The exercise reinforces students' critical evaluation skills by providing a productive reading strategy based on the purpose of each section of the research article. This paper describes the active learning exercise and discusses its implementation and evolution.

### Introduction

In the fall semester of 2007, Roxanne started teaching three library instruction sessions for an upper-division nutritional sciences course with a significant writing component. The class typically has between 20 and 30 students. Students in the course identify, read, analyze, write about, and present scientific research on selected topics in nutrition and human health. The class is structured as a journal club, with two major assignments -- a favorite paper presentation and a literature review presentation. For the favorite paper assignment, students send a research article of their choice to their classmates, who prepare two questions for the presenter to address on the day he or she discusses the selected article. Students similarly receive and submit questions on classmates' literature reviews, which student reviewers address during their scheduled presentations.

The instructor wanted students to learn how to search PubMed, how to read and evaluate the articles they found in their searches, and how to cite these articles, preferably via hands-on exercises.

The sessions incorporated active learning. Active learning is a method of teaching that brings students into the process of their own education through discovery and participation (Lorenzen 2001; Grassian & Kaplowitz 2001), and often involves a social aspect, such as collaboration among peers (McGill 2004). Active learning methods have been used for some time in library instruction, especially in health sciences library instruction (Francis & Kelly 1997; Fosmire & Macklin 2002) but can be challenging for librarians to practice when their exposure to students is limited to one session and they have much material to cover (Druke 1992). Since Roxanne was meeting with the class for three instruction sessions, we could build upon what students had learned during and in between the earlier instruction sessions and devote more time to active learning exercises.

It was easy enough to conceive what a hands-on session on PubMed or EndNote™ would look like, but creating a how-to-read exercise took more investigation. Searches on reading scientific articles uncovered several works that describe the typical sections of a research article and their contents, plus a few recommended reading methods. Leedy (1981) advises tackling an article straight through, but re-reading the problem statement immediately after finishing the discussion section to see whether the conclusions are congruent with the question posed. Polit (2010) recommends skimming and a close re-read, followed by writing a synopsis. Gehlbach (1993) advises busy clinicians to save time by reading an article's Methods section first, since any Discussion or Conclusions arising from unsound methodology would be of dubious value. While he has a point, a Methods-first approach is too challenging for our population -- novice users of scientific research.

Greenhalgh (2003) notes two challenges novice users face in understanding scientific literature -- inability to select the right types of articles for an information need and a lack of strategy for effectively reading the articles. These two skills -- evaluation and critical reading -- informed the learning outcomes for our information literacy session.

# Tack för ordet!

Ett par bonuslänkar?

<https://youtu.be/K--lAfBgPNo>

<https://doi.org/10.5694/mja2.50860>



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