

# FIT1049

## Week 3:

## Research

# Last Week

Types of communication

Intrapersonal communication skills

Interpersonal Communication skills

- Assertiveness
- Listening
- Questioning
- Feedback

Intercultural Communication

Mindfulness

# Did you read the ePub for week

- A. Yes, It was good.
- B. Yes, It was bad
- C. No, I had technical difficulties
- D. No, I did not get around to it.

# Learning Outcomes

Be able to

- Describe what research is
- Find and describe different sources of information
- To analyze the quality of information
- Understand the appropriate form in which to present information
- Know two types of referencing
- Be able to reference correctly

# This Week's Lecture



- What is research?
- Finding information
- Working with information
- The role of bibliography



# What is research?

Basic definition:

“**a systematic** search for the truth or facts about something”

Source: Merriam-Webster



# The Research Process

Collection

- Seeking data for our research

Analysis

- Filtering and transforming data into information

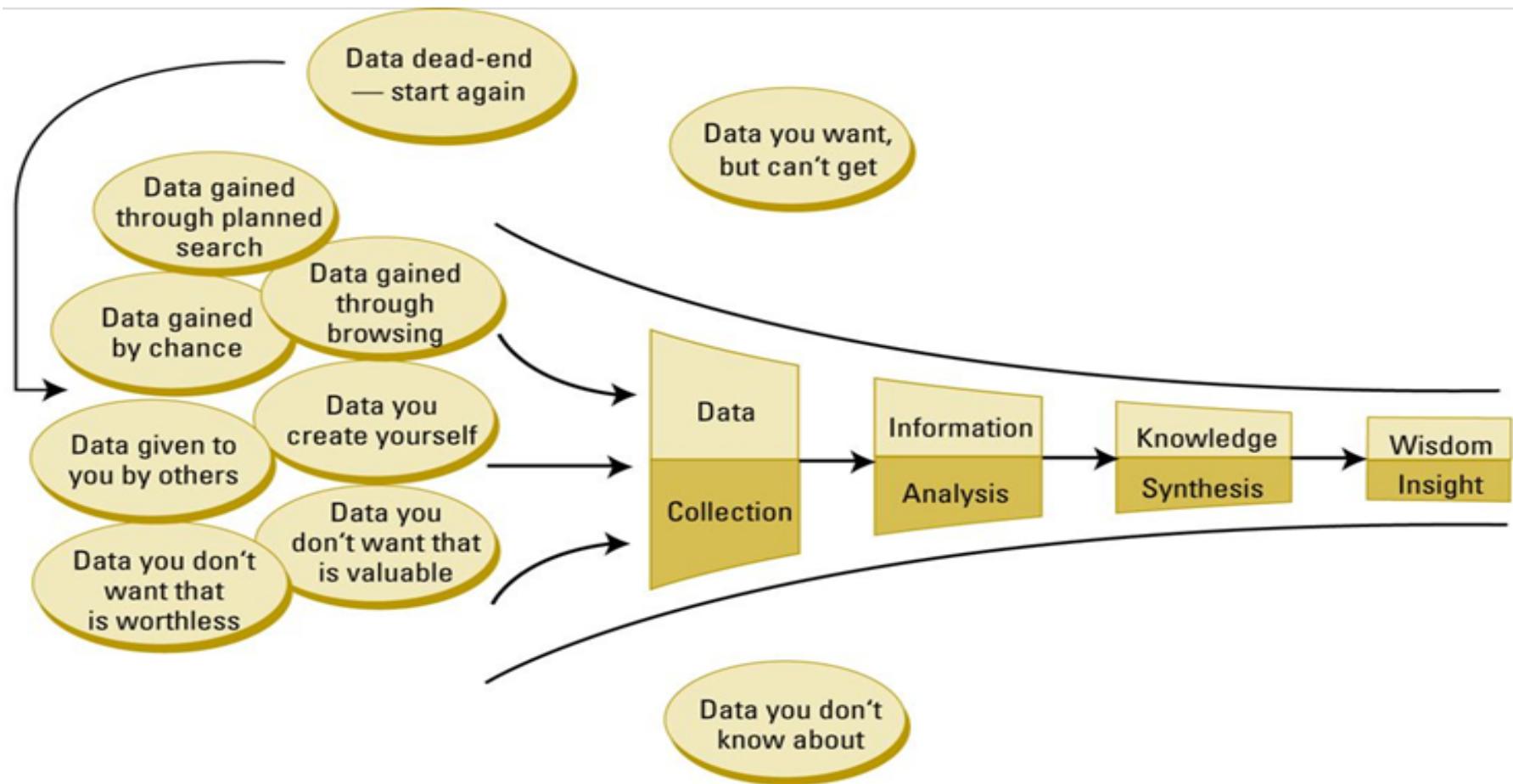
Synthesis

- Processing information to understand connections

Insight

- Achieving deep understanding of our research and how it connects with other knowledge

# The Research Process



# This Week's Lecture

- 
- What is research?
  - **Finding information**
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  - The role of bibliography



# Sources of Information

Primary

Secondary

Tertiary

# What type of source is a dictionary

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a double blind peer reviewed research paper

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a thesis

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a news story

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is an eyewitness account

- A. Primary
- B. Secondary
- C. Tertiary



# What type of source is an encyclopedia

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a review article in a journal

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a diary

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a manual

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is experimental data

- A. Primary
- B. Secondary
- C. Tertiary

# What type of source is a textbook

- A. Primary
- B. Secondary
- C. Tertiary

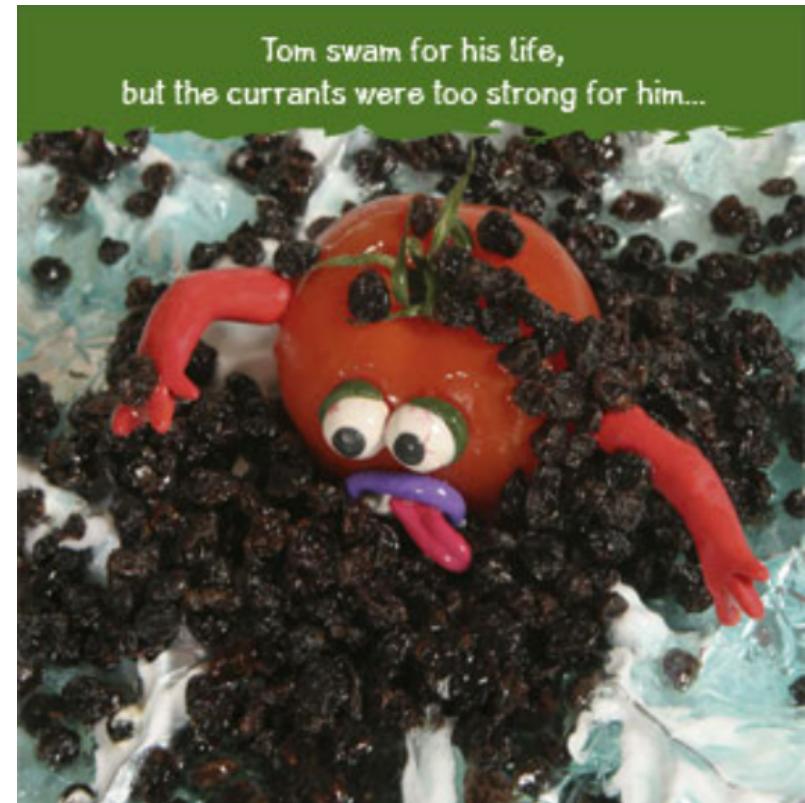
# Primary, secondary & tertiary sources

- What are they?
- How are they different?
- Why does it matter?



# Attributes of information

- Currency (and timeliness)
- Accuracy
- Authority
- Accessibility
- Stability



# eFolio Activity: Attributes of Information 1

Currency, Accuracy, Authority, Accessibility, Stability

**Microsoft's Kinect Selling Twice As Fast As The iPad**

The Huffington Post | By [Bianca Bosker](#)

Posted: 11/30/2010 11:56 am

The adoption rate of the iPad was celebrated as the fastest ever in electronics history. Now, less than a year after the tablet's launch, Microsoft has usurped that distinction with Kinect....The Kinect figures include sales over Black Friday, typically the busiest shopping day of the year. And Microsoft's gaming gadget (\$150-\$400 each) is around half as expensive as Apple's iPad, which starts at \$500.

# eFolio Activity: Attributes of Information 2

## Currency, Accuracy, Authority, Accessibility, Stability

Touch and gesture: mediating content display, inscriptions, and gestures across multiple devices Gerard Oleksik, Natasa Milic-Frayling, Rachel Jones, 2014 **Personal and Ubiquitous Computing**, Volume 18(5)

First, our study shows that the spatial configuration of the devices may cause a tension between the need for a group of participants to view a specific content on a shared device and the need of a speaker to use gestures and inscriptions on a device that is not visually accessible to all the participants. This leads to two observed phenomena:

A split of the participants' attention between two focal points that are not in the same visual space and compromise the effectiveness of the meeting setup

A concerted effort by the participants to maintain the congruence of the content, inscriptions, and gestures that are used in the group communication.

# Electronic Databases

Database: large collection of information stored electronically and organised in categories for ease of retrieval (Eunson, p. 87)

[Monash library databases](#)

# Get the search right

Use search engines

Understand ‘operators’

- + ‘AND’
- - ‘NOT’
- “XX” exact match

Must be able to evaluate sources of information

# This Week's Lecture

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# How do you take notes / organise information?

- A. Handwritten notes
- B. Handwritten annotations on printed material
- C. Copy & paste from sources and then type notes (word processor)
- D. Note-taking application (eg Evernote)
- E. Other

# Taking Notes

# How? Why?

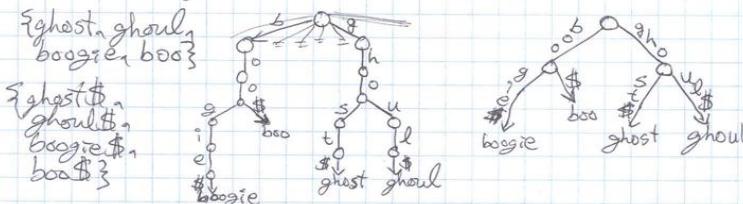
String matching: text  $T$ , pattern  $P$  (Substring)  
 find all/some occurrences of  $P$  in  $T$ .

- obvious:  $O(|T| \cdot |P|)$
- Knuth-Morris-Pratt [SIGCOMP 1977]:  $O(|T|)$ 
  - preprocess  $P$  into a finite automaton
- Boyer-Moore [CACM 1977]:  $O(|T|)$  but sometimes even  $O(|T|/|P|)$ 
  - search for mismatch from back to front
  - mismatch early  $\Rightarrow$  skip a lot
- Rabin-Karp [1987]:  $O(|T|)$  w.h.p. (with high probability)
  - fingerprint  $T[i:i+|P|]$  with  $\sum_{k=1}^{|P|} T[k] \cdot x^k \bmod q$ .
  - shift  $i$  in  $O(1)$ .

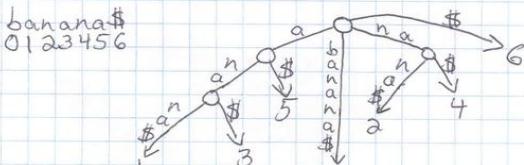
What if we can preprocess  $T$ ?

Suffix tree [Weiner 1973; McCreight 1976; Ukkonen 1995;  
Giegerich & Kurtz 1997]

- trie = tree with children pointers labeled with letters in  $\Sigma$
  - trie  $\leftrightarrow$  set of strings (root-to-leaf paths)
  - terminate strings with  $\$$  to allow prefixes



- compressed trie = store nonbranching paths as single labeled edges
  - suffix tree/trie = compressed trie of all  $|T|+1$  suffixes of  $T$ .



- store edge labels with 2 indices into the text  
or just store length & check later (& first letter.) }  
} index  
space



<http://www.broward.k12.fl.us/davethomased/middle.htm>

The screenshot shows a portion of a document in Adobe Reader. A yellow highlight box is placed over the text "and write it again, sometimes with decorative characters". A context menu is open at the top right of this highlighted area, with the following options visible:

- Open Pop-Up Note
- Reply
- Delete
- Show Comments List
- Open All Pop-Ups
- Minimize All Pop-Ups Ctrl+7
- Make Current Properties Default
- Properties...

The main text in the document discusses working with batches of data, mentioning simple programs and the need to handle multiple pieces of similar data.

In this chapter, we'll look at more ways of dealing with batches of data, by writing a program

# This Week's Lecture

- What is research?
- Finding information
- Working with information
- **The role of bibliography**



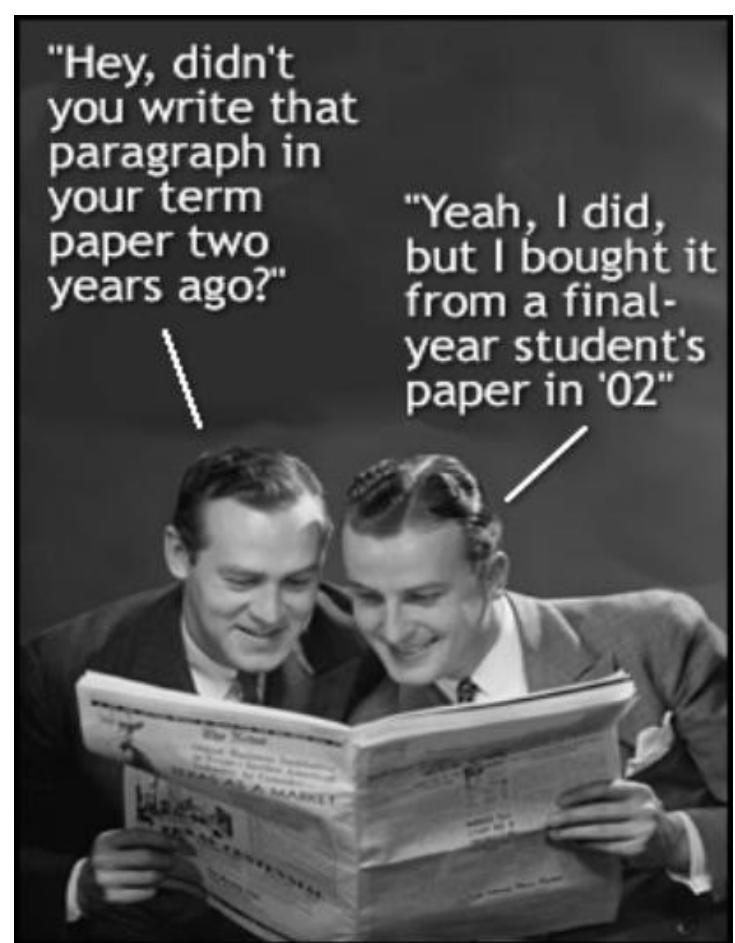
# How do we incorporate sources of information into our findings?

- Paraphrasing and quotation
- Bibliographical information
- Citation / referencing

# Plagiarism

“passing off someone else's ideas, and the way in which they are expressed, as your own”

Eunson, p. 98



# No plagiarism = better work

Ensure your work

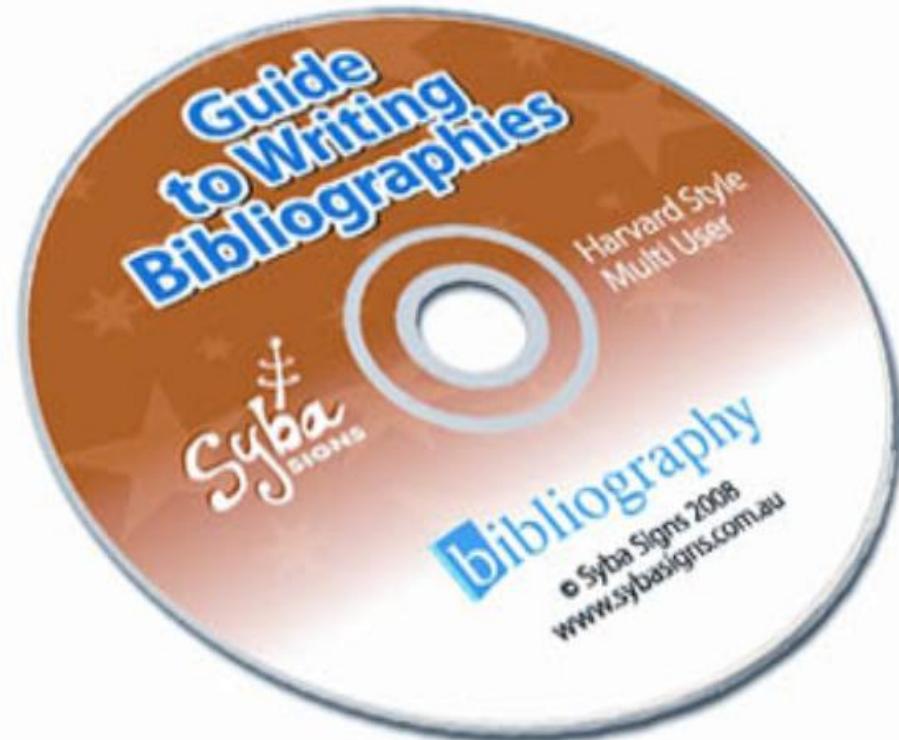
- Has integrity
- Is precise
- Appropriately acknowledges sources of information

Incorporate other sources using **quotation** and  
**paraphrasing**

This discipline can help you be a better professional

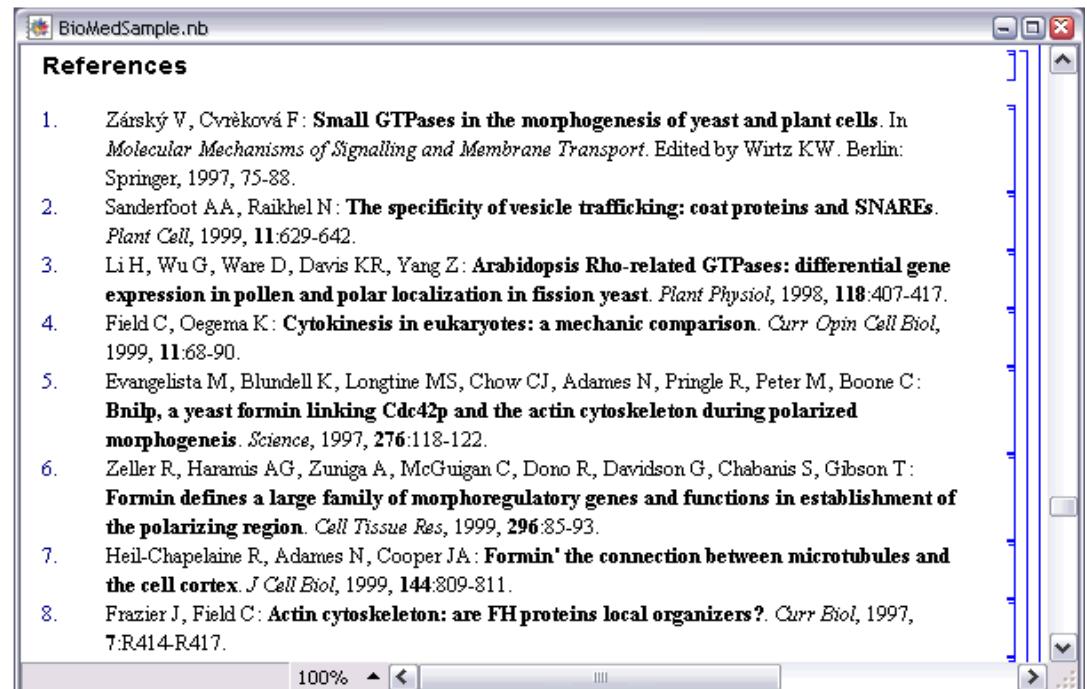
# A bibliography

Role: To provide the reader with information about the sources you have drawn upon in your research



# References ≠ Bibliography

You need one or other



<http://reference.wolfram.com/publicon/UserGuide/GettingStarted/InsertingCitationsAndBibliographies.html>

# Referencing

## systems

Combination of:

- In-text citation
- Some type of reference list

Refers reader to information elsewhere without disturbing flow of main text

# APA 6<sup>th</sup> (author-date)

This is an example of how to put in an inline citation for a book ([Bernal & Wilson, 1998](#)) and this would be how to put in a citation for journal article ([Jones & Liu, 1997](#)) and this is another example of a journal article ([Malone, 1981](#))

Bernal, B., & Wilson, L. (1998). *The VSDC Dictionary of Auslan: English to Auslan*. Melbourne, Victoria: VSDC Services for Deaf Children.

Jones, M., & Liu, M. (1997). Introducing Interactive Multimedia to Young Children: A Case Study of How Two-Year-Olds Interact With the Technology. *Journal of Computing in Childhood Education*, 8(4), 313-343.

Malone, Thomas W. (1981). What makes computer games fun. *Byte*, 6(12), 258-277.

# SIAM (Numbered)

This is an example of how to put in an inline citation for a book [1] and this would be how to put in a citation for journal article [2] and this is another example of a journal article [3]

- [1] B. BERNAL and L. WILSON, *The VSDC Dictionary of Auslan: English to Auslan*, VSDC Services for Deaf Children, Melbourne, Victoria, 1998.
- [2] M. JONES and M. LIU, *Introducing Interactive Multimedia to Young Children: A Case Study of How Two-Year-Olds Interact With the Technology*, Journal of Computing in Childhood Education, 8 (1997), pp. 313-343.
- [3] T. W. MALONE, *What makes computer games fun*, Byte, 6 (1981), pp. 258-277.

# Reference styles

There are many referencing styles

Designated style must be followed consistently

In FIT1049 (e.g. assignments) you must use [APA](#) (type of Author Date system)

# Which is an example of APA

- A. Ellis, K.A., Blashki, K.M., 2004, Toddler techies: a study of young children's interaction with computers, *Information Technology in Childhood Education Annual*, vol 2004, Association for the Advancement of Computing in Education, Norfolk USA, pp. 77-96.
- B. [1] K. A. Ellis and K. M. Blashki, "Toddler Techies: A Study of Young Children's Interaction with Computers," *Information Technology in Childhood Education Annual*, pp. 77-96, 2004.

# Legitimate quotation

< 4 lines: quote and reference

≥ 4 lines: start with colon, separate indented block

# Which is correct APA

- A. Ellis states, “Toddlers can use computers” (2004)
- B. Ellis states, “Toddlers can use computers” (2004:p. 5)
- C. Ellis states Toddlers can use computers (2004: p. 5)

1. “The internet is a useful research tool” (Ant, 2015, p. 6)
2. Firefly states The internet is efficient as a research tool (2015, p.6)
3. Bug states “The library is a better research tool” (2015)
4. Caterpillar (2015) states that “Books are a useful research tool.”
5. Earwig (p.6) states that “Books are good food”.
6. Book are for reading (Grub, 2015, p.6 )
7. Dragonfly (2015, p.6) argues that the Internet is a useful research tool.
8. It is widely thought that the Internet is a useful research tool (Hornet, 2015)(Insect, 2015).

1. “The internet is a useful research tool” (Ant, 2015, p. 6)

“**The internet is a useful research tool**” (Ant, 2015)

**Ant states**, “The internet is a useful research tool” (**Ant**, 2015, p. 6)

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# Formatting References

APA style references use **hanging indent** for easy reading



SHORT VERSION OF TITLE

## References

<http://olliestraining.com/wp-content/uploads/2011/12/Rock-climbing-hang.jpg>

Arce, I. (2003). Flying high. *NEA Today*, 21 (4), 38–39. Retrieved January 21, 2003 from the

→ Proquest database.

Bunt, A., & Yang, B. (2002). Factor structure of the adult attitudes toward adult and continuing education scale and its capacity to predict participation behavior: Evidence for adoption of a revised scale. *Adult Education Quarterly: A Journal of Research and Theory*, 52(4), 299-314.

<http://eulibraries.files.wordpress.com/2013/01/hanging-indent-1.jpg>

# Formatting References

In the APA style:

Reference list ≠ Bibliography

References are sources **specifically** cited

# IT Help with Endnote

# Summary

After this lecture, the associated tutorial, and practice during Assignments 1 and 2, you should be able to:

Understand what is meant by “research”

Explain the difference between primary, secondary and tertiary sources

Find relevant information by searching library catalogues, databases and the internet

Critically evaluate information and sources

Reference sources appropriately and with a consistent reference style

# Week 3 Tutorial – Research Skills

Assignment 1 released Friday – See Moodle

Next lecture

## Oral Presentation Skills