HONG KONG BAPTIST UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE

COMP7950
IT PROJECT SKILLS

Effective Academic Writing

Understand and Think Before You Write

- Critical reading
  - high-level comprehension of written material
  - a careful, active, reflective, analytic reading
  - a technique for discovering information and ideas within a text

- Understanding/Critical thinking
  - ability to engage in reflective and independent thinking
  - a technique for evaluating information and ideas, for deciding what to accept and believe

Understanding and Using Arguments in Writing

- Argument
  - a set of statements of which one is the conclusion and the others are premises, intended as support for the conclusion
  - To give an argument is to provide a set of premises as reasons for accepting the conclusion

- Statement
  - any declarative sentence, i.e., a complete and grammatical sentence that makes a claim
  - Statements can be true or false, and they can be simple or complex
    - → But they must be grammatical and complete

Statements

- Examples of statements in English

  - Snow is white.
  - The moon is made of green cheese.
  - Everyone is here.
  - Whatever will be, will be.
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Source: http://philosophy.hku.hk/think/logic/statements.php

Statements

- The following are not statements:

  - The United Nations [A proper name, but not a sentence]
  - Bridge over troubled waters. [Not a complete sentence]
  - Come here right now! [A command that is not a complete sentence making a claim]
  - Will you be available on tuesday or wednesday? [A question]
  - HJGAS&*^@#JHGKJAS*&^*!@GJHGAA*&S [Ungrammatical]

Source: http://philosophy.hku.hk/think/logic/statements.php

Premises & Conclusion

- Conclusion
  - the primary claim, the one we are trying to get others to accept
  - The distinctive aim of giving an argument is rationally to persuade an audience that the conclusion is true

- Premises
  - the supporting claims, the ones that are intended to give us reasons for accepting the conclusion
  - A premise in an argument is advanced as a reason for inferring the argument's conclusion

Premises & Conclusion: Examples

- Argument with just one premise

  P1) Bart has two sisters.

  C) Therefore, Bart is not an only child.

- Argument with two premises

  P1) Helping someone to commit suicide is the same as murder.

  P2) Murder is wrong.

  C) Therefore, helping someone to commit suicide is wrong.

- Argument with three premises

  P1) Car use is seriously damaging the environment.

  P2) Reducing car journeys would reduce damage to the environment.

  P3) We should do what we can to protect the environment.

  C) Therefore, we should use cars less

Premises & Conclusion: Examples

- Argument with an intermediate conclusion

  P1) Fido is a dog.

  P2) All dogs are mammals.

  C1) Fido is a mammal.

  P3) All mammals are warm-blooded.

  C2) Fido is warm-blooded.

- Inference
  - a step in reasoning from one or more premises to a conclusion
  - all arguments contain at least one inference

Argument Examples

- Examples of passages that do not contain arguments

> When people sweat a lot they tend to drink more water. [Just a single statement, not enough to make an argument.]
>
> Once upon a time there was a prince and a princess. They lived happily together and one day they decided to have a baby. But the baby grew up to be a nasty and cruel person and they regret it very much. [A chronological description of facts composed of statements but no premise or conclusion.]
>
> Can you come to the meeting tomorrow? [A question that does not contain an argument.]

Source: http://philosophy.hku.hk/think/arg/arg.php

Deductive Argument

- Deductive argument
  - The truth of the premises guarantees the truth of the conclusion
    - → It is impossible for the premises to be true but the conclusion false
  - Example

    P1) If a student has obtained cumulative GPA above 3.7,
    then he/she will get scholarship.

    P2) Paul has obtained cumulative GPA above 3.7.

    C) Therefore, Paul will get scholarship.

    - P1 is a general principle and P2 confirms P1

Source: Kaye (2009) p.16-17

Inductive Argument

- Inductive argument
  - a line of reasoning that produces only a probable conclusion
  - the truth of the premises does not guarantee the truth of the conclusion
  - Example

    P1) It snowed in New York City last December.

    P2) It snowed in New York City two Decembers ago.

    P3) It snowed in New York City three Decembers ago.

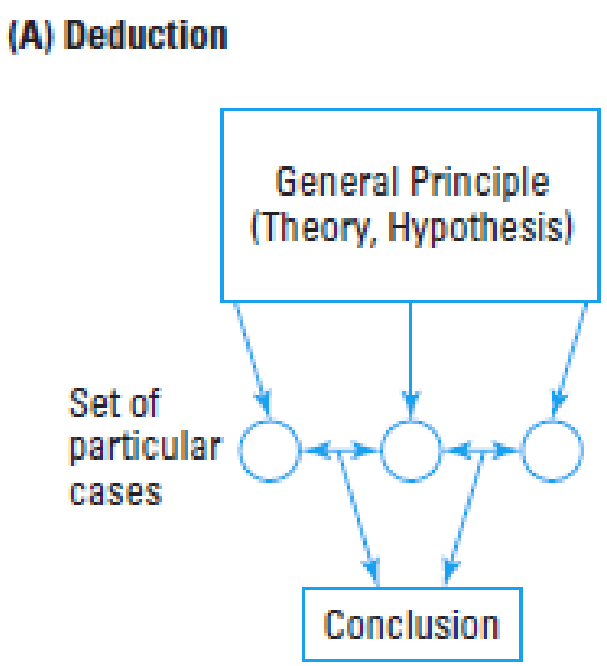
    C) Therefore, it will snow in New York City this December.

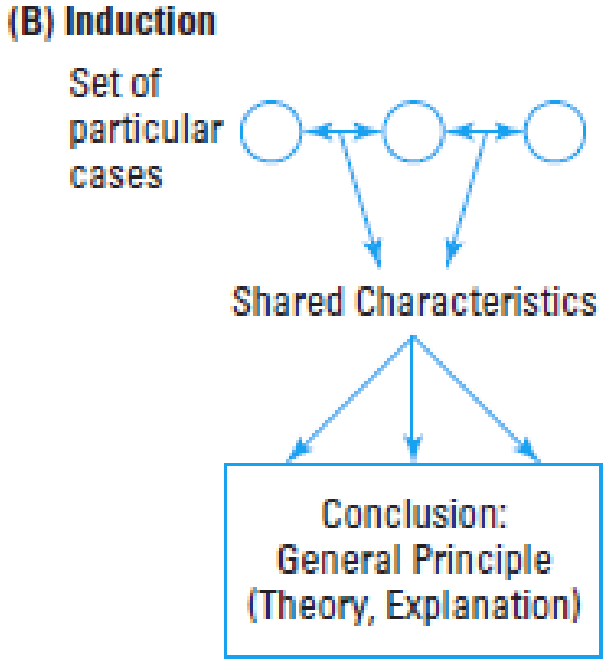
    - We might be 100% certain that it has snowed in December for the past 100 Decembers
    - But we still cannot be100% certain that this December will be snowing

Source: Kaye (2009) p.16-17

Deduction and Induction

- Deduction (A) begins with the general and ends with the specific
  - uses particular cases to exemplify general principles and analyze their implications
- Induction (B) moves from the specific to the general
  - constructs general principles from the analysis of particular cases





Source: Rosenwasser, D., and Stephen, J. (2009) *Writing Analytically*, 5th Edition, Boston, MA: Thompson, p.168

Deduction and Induction

- Example

> *Adham*: I've noticed previously that every time I kick a ball up, it comes back down, so I guess this next time when I kick it up, it will come back down, too.
>
> *Rizik*: That's Newton's Law. Everything that goes up must come down. And so, if you kick the ball up, it must come down.

  - Adham is using inductive reasoning, arguing from observation
  - Rizik is using deductive reasoning, arguing from the law of gravity

Source: http://www.sjsu.edu/depts/itl/graphics/induc/ind-ded.html

Deduction and Induction

- Deduction or Induction?

The windows are broken.

There are footprints with mud on the floor.

Some jewels and electronics are missing.

Some intruders entered the house and burglarized it.

Workers would lose job security if more jobs go overseas.

More jobs would go overseas if globalization continues.

Workers would lose job security if globalization continues.

Evaluating Argument

Criteria	Terms Used for Success in Satisfying Criteria	
1. Structural design	Validity	Soundness
2. Foundation	Truth of Premises	

- Evaluating argument
  1. Validity: objective
  2. Soundness: subjective

Source: Cederblom, J., and Paulsen, D. (2005) *Critical Reasoning*, 6th ed, Belmont, CA: Wadsworth Publishing, p.155.

1. Validity

- If all the premises are indeed true, could the conclusion conceivably be false?
  - If it could not be, then the argument is valid
  - If it could, then the argument is invalid
- Examples
  - Valid argument

    P1) The Prime Minister's dog is infested with fleas.
    P2) Fleas are bacteria.

    C) The Prime Minister's dog is infested with bacteria.

  - Invalid argument

    P1) Colette owned a dog.
    P2) All French Bulldogs are dogs.

    C) Colette owned a French Bulldog.

1. Validity

- Validity is about the logical connection between the premises and the conclusion
- A valid argument is one where the truth of the premises guarantees the truth of the conclusion
- But validity does not guarantee that the premises are in fact true
- All that validity tells us is that if the premises are true, the conclusion must also be true

Source: http://philosophy.hku.hk/think/arg/valid1.php

1. Validity
Valid Arguments: Examples

			In fact
Case 1:	P1)	Janet Baker is an opera singer.	True
	P2)	All opera singers are musicians.	True
	C)	Janet Baker is a musician.	True
Case 2:	P1)	Janet Baker is a baritone.	False
	P2)	All baritones are Italians.	False
	C)	Janet Baker is an Italian.	False
Case 3:	P1)	Janet Baker is a soprano.	True
	P2)	All sopranos are Italians.	False
	C)	Janet Baker is an Italian.	False

1. Validity
Invalid Arguments: Examples

			In fact
Case 4:	P1)	Janet Baker is a soprano.	True
	P2)	Janet Baker is a musician.	True
	C)	Janet Baker is an Italian.	False
Case 5:	P1)	Janet Baker is a woman.	True
	P2)	All baritones are women.	False
	C)	Janet Baker is a baritone.	False

1. Validity
Conditional Statements

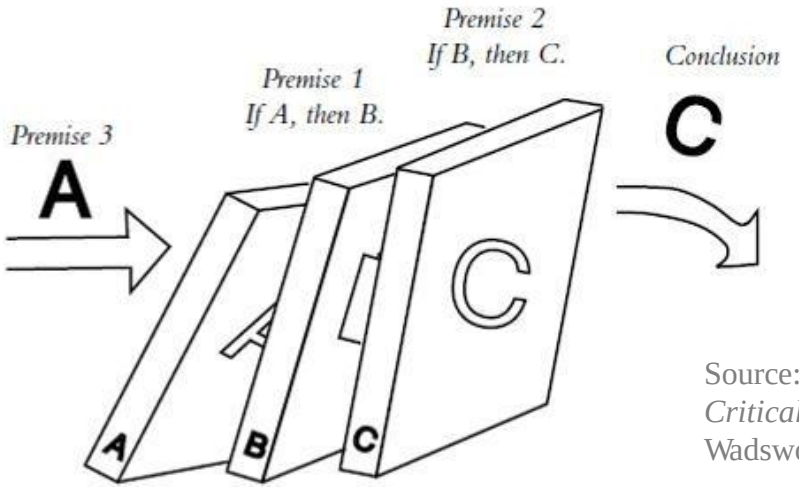
- Valid argument pattern
  - Example

    P1) If A, then B.

    P2) If B, then C.

    P3) A.

    C) C.



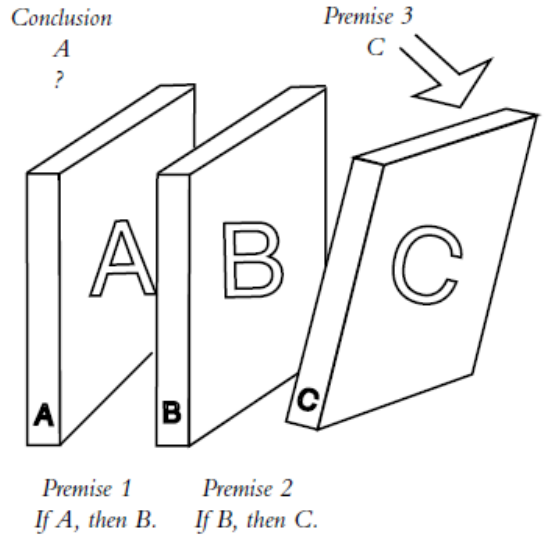
- Invalid argument pattern
  - Example

    P1) If A, then B.

    P2) If B, then C.

    P3) C.

    C) A.



Source: Cederblom, J., and Paulsen, D. (2005) *Critical Reasoning*, 6th ed, Belmont, CA: Wadsworth Publishing, p.97-98.

2. Soundness

- (Deductive) soundness
  - an argument is sound if, but only if
    - the argument is valid
    - all its premises are true
  - Example
    - Sound argument

      P1) Any disease that threatens many lives is worth our concern.

      P2) AIDS threatens many lives.

      C) AIDS is worth our concern.
    - Unsound argument

      P1) Cleopatra was a woman.

      P2) Cleopatra was a ruler of Greece.

      C) Therefore, a woman was the ruler of Greece.

3. Problems with Quantifiers

- Quantifiers
  - words that tell us how many/much of something there are/is, or how often something happens
  - not all quantifiers specify an exact quantity of the thing, rather they provide a rough guide
- Problems with Quantifiers
  1. Sometimes quantifiers are used without sufficient precision, resulting in misinterpretation, e.g., “All Premiership footballers earn massive payments from sponsorship deals.” (“nearly all” is better than “all”)
  2. Some quantifier words are themselves vague, e.g., “Some Members of Parliament support the decriminalization of cannabis use.” (“some” = ?; “only some” or “quite a few” would give different implications)
  3. Often people simply omit quantifiers, e.g., “Lecturers don’t give students a chance to complain.” (c.f. “Most of the lecturers I know”)
  4. Quantifiers can be used to express generalizations, which may not be the intention of the author, e.g., “Everyone has tried drugs at some time in their lives.” (c.f. “Most of the people I know”)

Academic Writing

- Academic writing
  - … is writing done by scholars for other scholars
  - … is devoted to topics and questions of interest to the academic community
  - … should present the readers with informed arguments
    - What you know → what you think
    - Summarize, evaluate, analyze, and synthesize

Gocsik, K. (2005) What is an academic paper? Retrieved September 10, 2010, from http://www.dartmouth.edu/~writing/materials/student/ac_paper/what.shtml

Differences Between Academic and Personal Writing

Personal Writing	Academic Writing
Tells a story	Summarize, evaluate, analyze, and synthesize
Personal views and feelings	Evidence and arguments
Non-technical vocabulary	Subject-specific vocabulary
Information comes from the writers' experience	Information comes from sources and refers to what others say
	Conventions for citation

Crème P & Lea M, Writing at University, Buckingham, OUP, 1997, p. 105

Approaching Academic Writing

- Who are you writing for?
- What are you trying to say?
- How are you going to say it effectively?

Transmission of information and argument

Structure of an Academic Paper

- Headings
- Abstract
- Keywords
- Introduction
- Body of the Paper
- Conclusion & discussion
- Acknowledgement
- Reference
- Biography

Constructing a web information system development methodology

Richard Vidgen

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Abstract. *This paper reports on the extension of the Multiview framework to web-based information systems. The aims are firstly to investigate the appropriateness of Multiview – a pre-Internet analysis and design methodology – to web-based information systems and, secondly, to reflect on the nature and role of methodology, as distinct from method, in the information systems (IS) development process. A 2-year e-commerce development project in a small to medium enterprise is the setting for learning through action research. To distinguish the project from consultancy, a framework of ideas – Multiview – is declared and tested in the research process. The differences and similarities of pre-Internet and Internet-based projects are analysed and reported on. At a higher order of learning the project provided an opportunity to reflect on how methodologies are constructed in practice.*

Keywords: Information system development, Multiview, Internet, e-commerce, methodology, action research, web

- Heading
  - Title
  - Author
  - Organization name
- Abstract
  - Background
  - Main purpose
  - Methodology
  - Findings, results, conclusions
- Keywords
  - Main ideas
  - Topic

Decision Sciences
Volume 39 Number 2
May 2008

The Effects of Process and Outcome Similarity on Users' Evaluations of Decision Aids*

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- Heading
  - Title
  - Author
  - Organization name

ABSTRACT

Decision aids (DA) used in online shopping contexts have been shown to improve users' product choices. Given that previous research (e.g., Byrne & Griffitt, 1973) has demonstrated the positive effects of perceived similarity on an individual's evaluation of others, this study investigates the effects of users' perceived similarity with a DA on their evaluations of that DA. More specifically, we investigate the effect of users' perceptions of the similarity between their own decision process and that followed by the DA to arrive at a recommendation (decision process similarity), as well as the similarity between the recommendations made by the DA and users' initial choices (outcome similarity), on their evaluations of the DA's usefulness and trustworthiness. The results of this study show that perceived process similarity exerts positive and significant effects on users' perceptions of the DA's usefulness and trustworthiness. However, the effects of perceived outcome similarity on trust are completely mediated by perceived process similarity. It is also observed that the level of the user's domain knowledge moderates the effects of perceived decision process similarity on both perceived usefulness and trustworthiness. These results have implications for DA design. It is important that designers consider the process by which users make decisions for themselves and align the DA's decision process with those of the user's, especially for the novice user. The full mediation of the effect of outcome similarity on trust by process similarity highlights how a similar decision process can mitigate some of the negative effects of outcome dissimilarity.

Subject Areas: B2C e-commerce, Decision Aids, Decision-Making Process, Decision Outcome, Similarity, and Technology Dominance.

- Abstract
  - Background
  - Main purpose
  - Methodology
  - Findings, results, conclusions
- Keywords
  - Main ideas
  - Topic

The Introduction

INTRODUCTION

Decision aids (DA) have been successfully utilized in a variety of settings, ranging from electronic commerce (e-commerce) (e.g., Komiak & Benbasat, 2006) to accounting and finance (e.g., Arnold & Sutton, 1998). Users of such DAs are typically faced with preferential choice problems (Todd & Benbasat, 1994), in which the decision maker's task is to choose from among a number of alternatives based on some predefined criteria and where the solution process is unstructured and subjective (Arnold, Clark, Collier, Leech, & Sutton, 2004a). In such settings, DAs assist decision makers with the complex process of making these decisions (Arnold, Collier, Leech, & Sutton, 2004b).

It is now recognized that the simple incorporation of DAs does not imply their effective use (Arnold et al., 2004a). As a result, research has investigated factors

- Motivation of the paper
- Questions to be answered by the paper
- What does this paper do?
- Contribution of the paper
- Organization of the paper
- May include review of literature

Body of the Paper

- Review relevant literature
  - → lay a foundation for your paper; identify “gap” in extent research; establish the importance/significance of your research
- Details of your ideas and their justifications
  - E.g., research model and hypotheses
- Methodology
  - Research method and research findings

- Use sub-headings
- Use suitable tables or figures
- Cite appropriate reference whenever necessary

Conclusion & Discussion

- Summarize the most important findings
- Summarize the ‘answers’ to the questions the paper sets out to address
- State the contributions (or implications) of the paper
- State the limitations of the paper
- Propose possible extension of your paper
  - Point the reader in the direction of a new idea

Acknowledgement

- Acknowledge people who have guided or given advice to you throughout the writing of this paper

ACKNOWLEDGEMENTS

The authors thank Henri Isaac of the University of Paris Dauphine for his feedback on a draft of this paper.

- Acknowledge the organization that funded you for the project

Acknowledgments

This research was funded in part by grants from the Honeywell Foundation, Robert H. Smith School of Business, and the University of Maryland Graduate Research Board.

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Avison, D.E., Lau, F., Myers, M. & Nielsen, P.A. (1999) Action research. *Communications of the ACM*, **42** (1), 94–97.

Avison, D.E., Wood-Harper, A.T., Vidgen, R.T. & Wood, J.R.G. (1998) A further exploration into information systems development: the evolution of Multiview 2. *Information, Technology and People*, **11** (2), 124–139.

- Provide accepted conventional acknowledgement that parts of your work have been derived from other people.
- Shows you have read within your subject area
- Support your ideas
- with evidence

Biography

- The author's current job, research interests, academic degree(s), etc.

Sameh Al-Natour is a PhD student in management information systems at the Sauder School of Business, the University of British Columbia, Canada. He holds an MSc from the University of British Columbia and an MBA and a BS from Simon Fraser University. His research interests include the design and evaluation of human–computer interfaces, e-commerce, and the adoption and use of information systems.

Izak Benbasat is a Fellow of the Royal Society of Canada and a CANADA Research Chair in information technology management at the Sauder School of Business, University of British Columbia, Canada. He received his PhD in management information systems from the University of Minnesota. He currently serves on the editorial boards of the *Information Systems Journal* and the *Journal of Management Information Systems*. He was editor-in-chief of *Information Systems Research*, editor of the *Information Systems and Decision Support Systems Department of Management Science*, and a senior editor of *MIS Quarterly*. The general theme of his research is improving the communication between information technology (IT), management, and IT users.

Ronald T. Cenfetelli is an assistant professor of management information systems at the University of British Columbia's Sauder School of Business. He holds a PhD

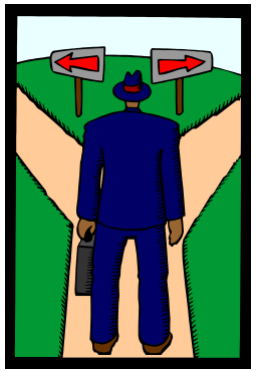
Style of an Academic Paper

- Different style requirements for different publishers
  - Headings
  - Tables and figures
  - References
- Example writing styles
  - APA (American Psychological Association) style
    http://owl.english.purdue.edu/owl/resource/560/01/
  - MLA (Modern Language Association) style
  - Chicago style
  - CAIS (Communications of the Association of Information Systems) style
    http://cais.aisnet.org/style.doc
  - IEEE
- Pick one and be consistent throughout the paper

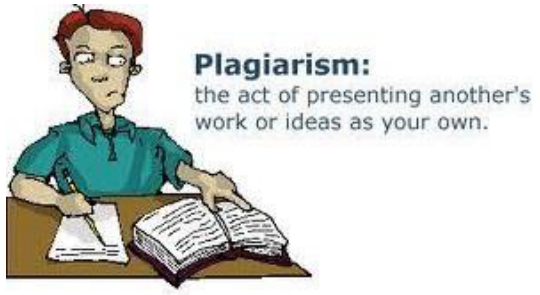
Documentation of Sources

- Careful documentation of sources is crucial to scholarly writing
  - Whenever you draw on the work (including facts, opinions, definitions, line of argumentation, train of thoughts, etc) of another scholar, you must acknowledge your source by documenting it carefully in your paper

- Plagiarism is the most severe crime in academia



What is Plagiarism?



- The act of taking another person's writing, conversation, song, or even idea and passing it off as your own
  - This includes information from web pages, books, songs, television shows, email messages, interviews, articles, artworks, etc.

- Whenever you paraphrase, summarize, or take words/phrases/sentences from another person's work, it is necessary to indicate the source of the information within your paper using in-text citation
  - It is not enough to just list the source in a bibliography or reference list at the end of your paper
  - Failing to properly quote, cite or acknowledge someone else's words or ideas with in-text citation is considered plagiarism

Source: http://www.lib.usm.edu/legacy/plag/whatisplag.php

In-Text Citation and Reference List

- Two integral parts of source documentation
  - In-text citation
    - The practice of giving credit to an author, singer, or speaker by citing their words/ideas within your paper the body of the paper
    - Also called parenthetical references
  - Reference list or bibliography

- In-text citations can be directly linked to your reference list

Source: http://www.lib.usm.edu/legacy/plag/whatisplag.php

In-Text Citation and Reference List

- In Text

decision quality (Haubl & Trifts, 2000). Nevertheless, as with other types of DAs, the adoption and use of online DAs has been slow at best (Xiao & Benbasat, 2007). Of the many determinants of adoption that have been studied in the literature, two have received increased attention: (i) trust in the DA (Wang & Benbasat, 2005)

- In Reference List

Wang, W., & Benbasat, I. (2007). Recommendation agents for electronic commerce: Effects of explanation facilities on trusting beliefs. *Journal of Management Information Systems, 23*, 217–246.

Xiao, B., & Benbasat, I. (2007). E-Commerce product recommendation agents: Use, characteristics, and impact. *MIS Quarterly, 31*(1), 317–209.

Turnitin Originality Report

- The comparison document is called an Originality Report
  - It details the matching or similar text between a submission made on Turnitin and the documents the submission was compared against
  - At the discretion of the instructor, student users may be able to view the Originality Reports for their own submissions on Turnitin

- "Viewing Originality Reports"

Tips for Avoiding Unintentional Plagiarism

- Here are some tips for avoiding unintentional plagiarism:
  - If you take notes on the computer rather than on paper, create a special folder for citation information
    - Create a number of folders: one for your paper; another for sources; and another folder for the notes you take from each source
    - Maintain all the information for the bibliography as you go – it'll save time and effort later

Tips for Avoiding Unintentional Plagiarism

- When taking notes, identify your source
  - Put quotation marks around direct quotes

- Tips for keeping your ideas separate from those in your sources
  - You can either identify each idea as your own, that is, cite yourself, or put your ideas in a different font, case, or color on the screen.
  - Print out your sources whenever possible → Working from the paper sources will allow you to check quotations for accuracy

Besides Microsoft Word?

- Tools for Professional Editing:
  - TeX
  - Web-based TeX

Overleaf: https://www.overleaf.com/