Lecture 5

Summarising Literature and Writing Skills

UNIVERSITY OF AUCKLAND

COMPSCI 289

Prof. Robert Amor

Learning Objectives

- Understand what exists in a literature review
- Learn the IEEE referencing style
- Learn to quote and reference correctly

What is a Literature Review?

- An account of what has been published on your topic of interest

- Purpose – to critically analyze a segment of a published body of knowledge through summary, classification, and comparison of prior studies

- Not merely a descriptive list of the material available, or a set of summaries of relevant resources

Anatomy of a Paper or Report

- Title
- Authors
- Abstract
- Keywords
- Introduction
  - Literature Review
- Main Body
- Conclusions
  - Future Work
- Acknowledgements
- References

Immersive virtual reality serious games for evacuation training and research: A systematic literature review

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ARTICLE INFO

ABSTRACT

An appropriate and safe behavior for exiting a facility is key to reducing injuries and increasing survival when facing an emergency evacuation in a building. Knowledge on the best evacuation practice is commonly delivered by traditional training approaches such as videos, posters, or evacuation drills, but they may become ineffective in terms of knowledge acquisition and retention. Serious games (SGs) are an innovative approach devoted to training and educating people in a gaming environment. Recently, increasing attention has been paid to immersive virtual reality (IVR)-based SGs for evacuation knowledge delivery and behavior assessment because they are highly engaging and promote greater cognitive learning.

This paper aims to understand the development and implementation of IVR SGs in the context of building evacuation training and research, applied to various indoor emergencies such as fire and earthquake. Thus, a conceptual framework for effective design and implementation through the systematic literature review method was developed. As a result, this framework integrates critical aspects and provides connections between them, including pedagogical and behavioral impacts, gaming environment development, and outcome and participation experience measures.

1. Introduction

Today, most people spend a large portion of their time living and working in buildings. However, natural or man-made hazards can make the building environment dangerous for staying. Proper evacuation responses and behavior during an emergency is a crucial factor to increase survival chance. In general, people are trained and acquire evacuation knowledge (e.g., emergency response, self-protection skills, best practice) through traditional approaches such as videos, posters, seminars, courses, or evacuation drills. However, these traditional approaches may not effectively transmit knowledge (Gwynne, Boyce, Kuligowski, Nilsson, P.

The Format of a Literature Review

- Introduction
  - Why you are writing a review, why the topic is important, where does it fit in CS
  - The scope of the review — what will the discussion include and exclude
 - The organisational pattern of the review
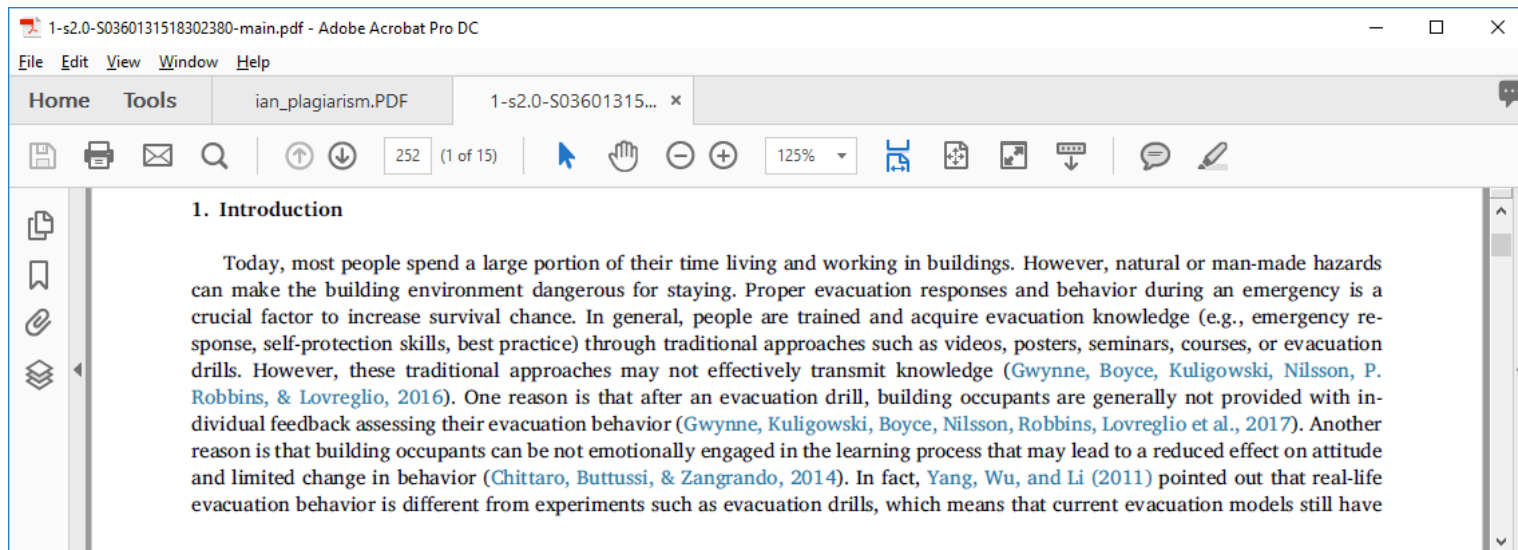
The Format of a Literature Review

- Body
  - Headings and subheadings
  - Summarize and evaluate the current state of knowledge
  - Note major themes or topics, the most important trends, and any findings about which researchers agree or disagree
  - Its purpose is to make an argument that will justify your proposed conclusions

The Format of a Literature Review

- Conclusion

  - A summary of the main agreements and disagreements in the literature

  - The general conclusions that are being drawn

  - Highlight gaps and indicate how previous research leads to your own conclusions
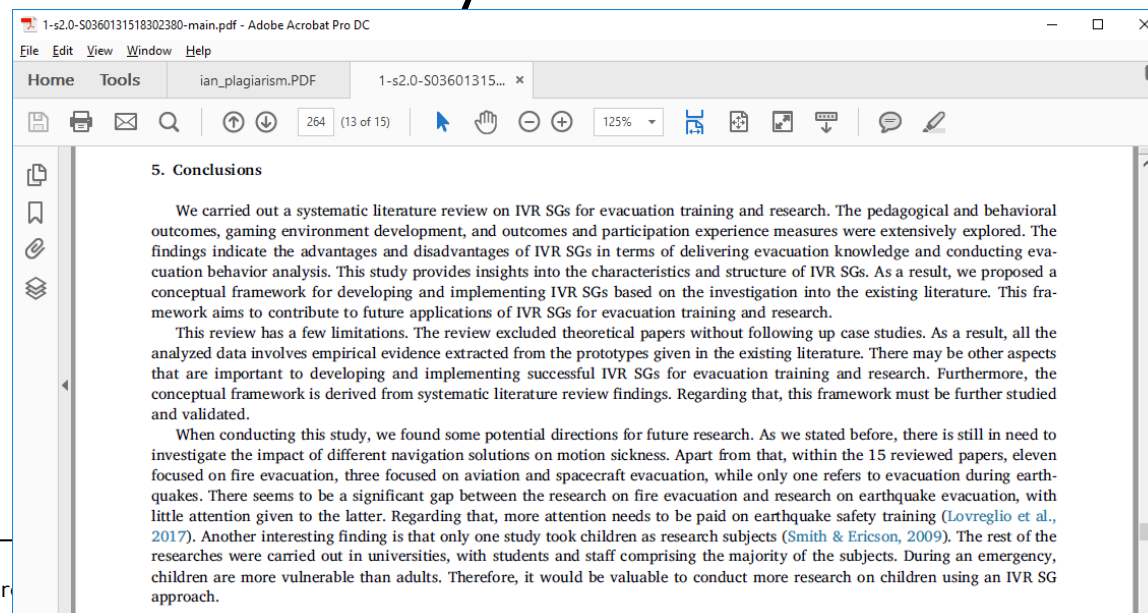
Writing the Literature Review

- Organise the section structure first
- Be selective
- Use quotes sparingly
- Summarise and synthesize
- Keep your own voice
- Use caution when paraphrasing (remember to cite)
- Focus on analysis, not description
- Revise, revise, revise

Systematic Literature Reviews (SLR)

- Methodology to identify all literature relevant to particular research questions
- Process includes
  - Identifying research
    - Search string
    - Publication databases
  - Selecting primary studies
    - Inclusion/Exclusion criteria
    - "How to Read a Paper"
  - Summarising papers, data extraction, classification
  - Data synthesis

B. Kitchenham and S. Charters, "Guidelines for performing systematic literature reviews in software engineering," EBSE Technical Report, 2007, 57pp.

Referencing – IEEE Style

I. CITING REFERENCES

A.   References in Text

References need not be cited in the text. When they are, they appear on the line, in square brackets, inside the punctuation. Grammatically, they may be treated as if they were footnote numbers, e.g.:

as shown by Brown [4], [5]; as mentioned earlier [2], [4]–[7], [9]; Smith [4] and Brown and Jones [5]; Wood et al. [7]

NOTE: Use et al. when three or more names are given for a reference cited in the text.

or as nouns:

as demonstrated in [3]; according to [4] and [6]–[9].

IEEE, "IEEE Reference Guide," IEEE Periodicals, 2018, 40pp.

Referencing – IEEE Style

Periodicals

Basic Format:

- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx-xxx*, Abbrev. Month, year.
- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx-xxx*, Abbrev. Month, year, doi: *xxx*.

Examples:

- M. M. Chiampi and L. L. Zilberti, "Induction of electric field in human bodies moving near MRI: An efficient BEM computational procedure," *IEEE Trans. Biomed. Eng.*, vol. 58, pp. 2787–2793, Oct. 2011, doi: 10.1109/TBME.2011.2158315.
- M. Ito *et al.*, "Application of amorphous oxide TFT to electrophoretic display," *J. Non-Cryst. Solids*, vol. 354, no. 19, pp. 2777–2782, Feb. 2008.
- R. Fardel, M. Nagel, F. Nuesch, T. Lippert, and A. Wokaun, "Fabrication of organic light emitting diode pixels by laser-assisted forward transfer," *Appl. Phys. Lett.*, vol. 91, no. 6, Aug. 2007, Art. no. 061103.

Periodical With DOI

Basic Format:

- J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. *x*, no. *x*, pp. *xxx–xxx*, Abbrev. month, year, doi: *xxx*.

Example:

- M. M. Chiampi and L. L. Zilberti, "Induction of electric field in human bodies moving near MRI: An efficient BEM computational procedure," *IEEE Trans. Biomed. Eng.*, vol. 58, no. 10, pp. 2787–2793, Oct. 2011, doi: 10.1109/TBME.2011.2158315.

 IEEE, "IEEE Reference Guide," IEEE Periodicals, 2018, 40pp.

Referencing – IEEE Style

Conference Proceedings in Print (Paper Presented at a Conference)

Basic Format:

- J. K. Author, "Title of paper," in *Abbreviated Name of Conf.*, (location of conference is optional), (Month and day(s) if provided) year, pp. *xxx-xxx*.

Examples:

- A. Amador-Perez and R. A. Rodriguez-Solis, "Analysis of a CPW-fed annular slot ring antenna using DOE," in *Proc. IEEE Antennas Propag. Soc. Int. Symp.*, Jul. 2006, pp. 4301–4304.
- G. R. Faulhaber, "Design of service systems with priority reservation," in *Conf. Rec. 1995 IEEE Int. Conf. Commun.*, pp. 3–8. *** *If the year is given in the conference title, it may be omitted from the end of the reference as shown here.****
- S. P. Bingulac, "On the compatibility of adaptive controllers," in *Proc. 4th Annu. Allerton Conf. Circuit Syst. Theory*, New York, NY, USA, 1994, pp. 8–16.

Conference Proceedings With DOI

Basic Format:

- J. K. Author, "Title of paper," in *Abbreviated Name of Conf.*, (location of conference is optional), year, pp. *xxx–xxx*, doi: *xxx*.

Examples:

- G. Veruggio, "The EURON roboethics roadmap," in *Proc. Humanoids '06: 6th IEEE-RAS Int. Conf. Humanoid Robots*, 2006, pp. 612–617, doi: 10.1109/ICHR.2006.321337.

IEEE, "IEEE Reference Guide," IEEE Periodicals, 2018, 40pp.

Referencing – IEEE Style

A. Books

Book

Basic Format:

- J. K. Author, "Title of chapter in the book," in *Title of His Published Book,* *x*th ed. City of Publisher, (only U.S. State), Country: Abbrev. of Publisher, year, ch. *x*, sec. *x*, pp. *xxx–xxx*.

Examples:

- B. Klaus and P. Horn, *Robot Vision.* Cambridge, MA, USA: MIT Press, 1986.
- L. Stein, "Random patterns," in *Computers and You,* J. S. Brake, Ed. New York, NY, USA: Wiley, 1994, pp. 55–70.
- R. L. Myer, "Parametric oscillators and nonlinear materials," in *Nonlinear Optics*, vol. 4, P. G. Harper and B. S. Wherret, Eds. San Francisco, CA, USA: Academic, 1977, pp. 47–160.
- M. Abramowitz and I. A. Stegun, Eds., *Handbook of Mathematical Functions* (Applied Mathematics Series 55). Washington, DC, USA: NBS, 1964, pp. 32–33.
- E. F. Moore, "Gedanken-experiments on sequential machines," in *Automata Studies* (Ann. of Math. Studies, no. 1), C. E. Shannon and J. McCarthy, Eds. Princeton, NJ, USA: Princeton Univ. Press, 1965, pp. 129–153.

IEEE, "IEEE Reference Guide," IEEE Periodicals, 2018, 40pp.
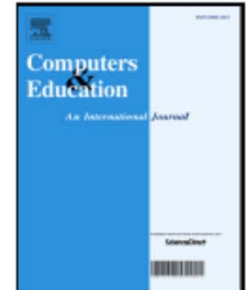
Referencing Exercise

Immersive virtual reality serious games for evacuation training and research: A systematic literature review

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Referencing Exercise

Human-Robot Interaction with Smart Shopping Trolley using Sign Language: Data Collection

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Plagiarism

- Using the work of others without explicit acknowledgement and referencing, that is, plagiarism. It includes: use of other people's data without acknowledgement; use of published or unpublished expressions and ideas from other people without adequate attribution; use of published or unpublished charts, diagrams. (Student Academic Conduct Statute, UoA)

- Plagiarism is the representation of another author's language, thoughts, ideas, or expressions as one's own original work (Wikipedia)

Avoid Plagiarism

- Always acknowledge the sources
- Present as quotes – Gallimore suggests that "valuers tend to give greatest weight to more recent information...." [12, p. 25].
- References included for:
  - Tables
  - Figures
  - Graphs or diagrams
- Self-plagiarism

Avoid Plagiarism

- Minimise what is quoted from other sources
  - 1-2 sentences
  - Almost never a paragraph
  - Many quotes strung together is not your writing
- Paraphrase
  - Really needs to be in your own words
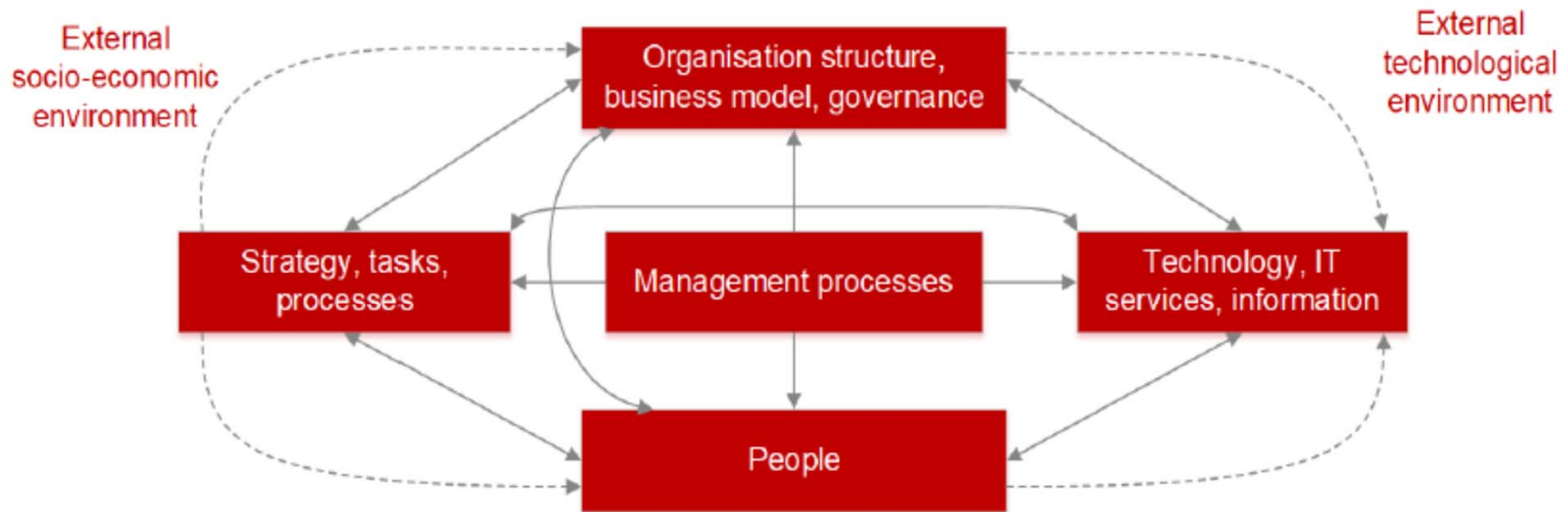- Plagiarism detection systems, UoA subscribes to:
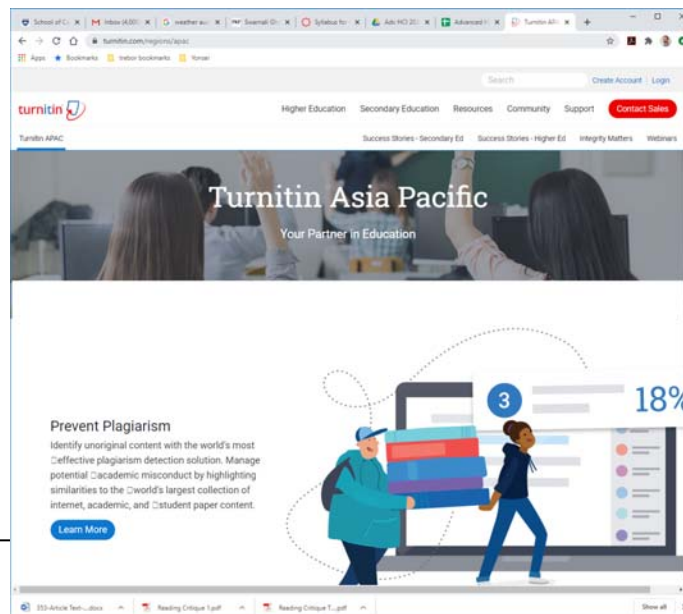
Example Approaches

Figure 1: Modified Leavitt's diamond theory of technology impact [6]

Jones and Amor (2020)

Examples of a short direct quote:

Baez et al. have noted that "full 3D stacking can potentially offer additional advantages for memory and processor applications" [7, p. 14].

In fact, Wilde at al. [3, p. 21] suggest that energy storage is achieved "by means of static charge rather than of an electro-chemical process inherent to the battery".

If you need to leave some unnecessary words out of the quotation, use a set of dots (...), called an **ellipsis**, indicating a break in quotes.

As seen in [5, p. 14], "the proposed circuit has improved signal attenuation ... and has been experiencing less performance degradation due to resistor variation".

https://libraryguides.vu.edu.au/ieeereferencing

TurnItIn Example

Tutorial 2 Heuristic evaluation 2020-1.d...	60%		✏	·	📄	1277274923	18-Mar-2020
Tutorial 2 Heuristic evaluation 2020.doc...	60%		✏	·	📄	1278596099	20-Mar-2020
Tutorial 2 Heuristic evaluation 2020.doc...	61%		✏	·	📄	1278467917	20-Mar-2020
Tutorial 2 Heuristic evaluation 2020.doc...	61%		✏	·	📄	1279349170	22-Mar-2020
Tutorial 2 Heuristic evaluation 2020.doc...	62%		✏	·	📄	1278047324	19-Mar-2020
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correlation to the information below them			
7. Flexibility and Efficiency of Use			
No way to easily re-book	low	MyPC	Remember past bookings to book certain lengths or desks again later
8. Aesthetic and Minimalist Design			
The _default site is meaningless and confuses new users	moderate	MyPC	Remove the _default site or make Kate Edgar the initial site
9. Help Users to Recognise, Diagnose, and Recover from Errors			
When the issue "advanced bookings is not allowed" there is not information on how to properly select a booking.	moderate	MyPc	Add more information in the error report to tell the user what to do.
10. Help and Documentation			
"Booking Instructions" does not teach you how to book	High	Main page	Change the name or the information provided in that area to something more relevant.

Summarising Literature and

Summary

- **Standard requirements for literature reviews**
  - Not just summarizing papers
- **Simple syntax for IEEE referencing**
- **Simple requirements for quoting text and figures**

Referencing Exercise Answers

Z. Feng, V. Gonzalez, R. Amor, R. Lovreglio and G. Cabrera, "Immersive Virtual Reality Serious Games for Evacuation Training and Research: A Systematic Literature Review," *Computers and Education*, vol. 127, 2018, pp. 252-266, doi: 10.1016/j.compedu.2018.09.002.

D. Ryumin, D. Ivanko, A. Axyonov, I. Kagirov, A. Karpov and M. Zelezny, "Human-Robot Interaction with Smart Shopping Trolley Using Sign Language: Data Collection," *2019 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops)*, Kyoto, Japan, 2019, pp. 949-954, doi: 10.1109/PERCOMW.2019.8730886.