Research Skills
Session 1: Introduction

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https://publons.com/researcher/1692944
http://scholar.google.com/citations

All of my presentations are available online at:
https://figshare.com/authors/Nader_Ale_Ebrahim/100797

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1st October 2019

Abstract

"Research Tools" can be defined as vehicles that broadly facilitate research and related activities. "Research Tools" enable researchers to collect, organize, analyze, visualize and publicized research outputs. Dr. Nader has collected over 700 tools that enable researchers to follow the correct path in research and to ultimately produce high-quality research outputs with more accuracy and efficiency. It is assembled as an interactive Web-based mind map, titled "Research Tools", which is updated periodically.

Keywords: H-index, Improve citations, Research tools, Bibliometrics, Research visibility, Research impact

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Do Research, Don't Re-Search

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Source: webofknowledge.com

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Research Tools Mind Map

Web of Science
SCOPUS
EndNote
OATD
& many more Research Tools

dtSearch
SpringerExemplar
Qiqqa
Academic Phrasebank
& many more tools

Research Tools
By: Nader Ale Ebrahim

Virtual Teams will become as important as

(1) Searching the literature

(2) Writing a paper

(3) Targeting suitable journals

(4) Enh

Journal Citation Reports
Journal Metrics
Manuscript matcher
Find the perfect journal for your arti
& many more Research Tools

392.2k views

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Session *Topic*

1. Introduction
2. Finding keywords
3. Finding Research Papers
4. Evaluate a paper quality
5. Managing Research
6. Read a paper
7. Indexing Desktop Research Tools
8. Avoid Scientific Misconduct
9. Writing a Paper
10. Improve paper quality
11. Target Suitable Journal
12. Improve your Research Visibility and Impact

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Requirements and Grades

This course is a postgraduate course and, as such, will be mostly conducted as guided conversation/discussion. The researcher will be expected to contribute to each of the learning through their active participation in class discussions/conversations.

The requirements for the course are as follows (the percentages of the overall grade are indicated).

Class tasks 60%

Project Presentation 10% + 10% (Extra 10%)

Final Exam 30%

The examination would be designed to test the students on their knowledge and skills pertaining to the Research Tools.

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Classroom Rules

- Register your presence online
- Be on time
- Come with completed homework
- Listen to the teacher/others
- Respect each other

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Outline

No.	Topic
1	What is a literature review
2	Some questions that the review of literature can answer
3	Systematic Review
4	Checklist for reading a review paper
5	Narrow the area of research
6	Review biases
7	Identifying a Research Problem
8	Developing a search strategy, Finding keyword
9	Introduce “Research Tools” Box

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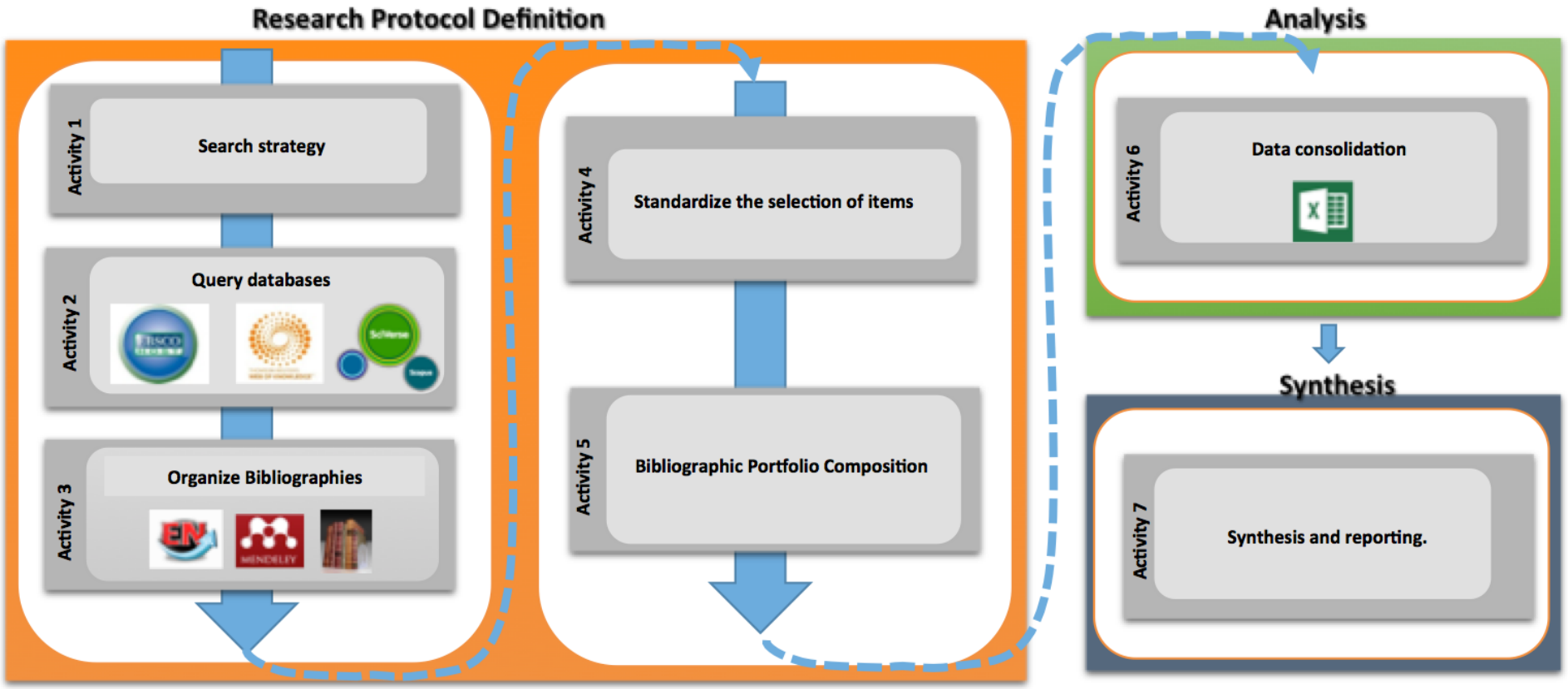
Systematic Review and Bibliometrics: A Step-by-step Guide



Source: Ferenhof, H. A., & Fernandes, R. F. (2016). *Systematic Review and Bibliometrics: A Step-by-step Guide*. Retrieved from http://diva-portal.org/smash/get/diva2:768099/FULLTEXT01

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What is a Literature Review?

Novice researchers tend to approach the literature review as nothing more than a collection of summaries of papers or an elaborated annotated bibliography of multiple research manuscripts (Webster & Watson, 2002). A meaningful literature review is much more:

- The use of ideas in the literature to justify the particular approach to the topic, the selection of methods, and demonstration that this research contributes something new
- Quality means appropriate breadth and depth, rigor and consistency, clarity and brevity, and effective analysis and synthesis
- Explain how one piece of research builds on another
- Creates a firm foundation for advancing knowledge
- It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed
- demonstrate that the proposed research contributes something new to the overall body of knowledge or advances the research field's knowledge-base

Source: Levy, Y., & Ellis, T. J. (2006). A systems approach to conduct an effective literature review in support of information systems research. *Informing Science: International Journal of an Emerging Transdiscipline*, *9*(1), 181-212.

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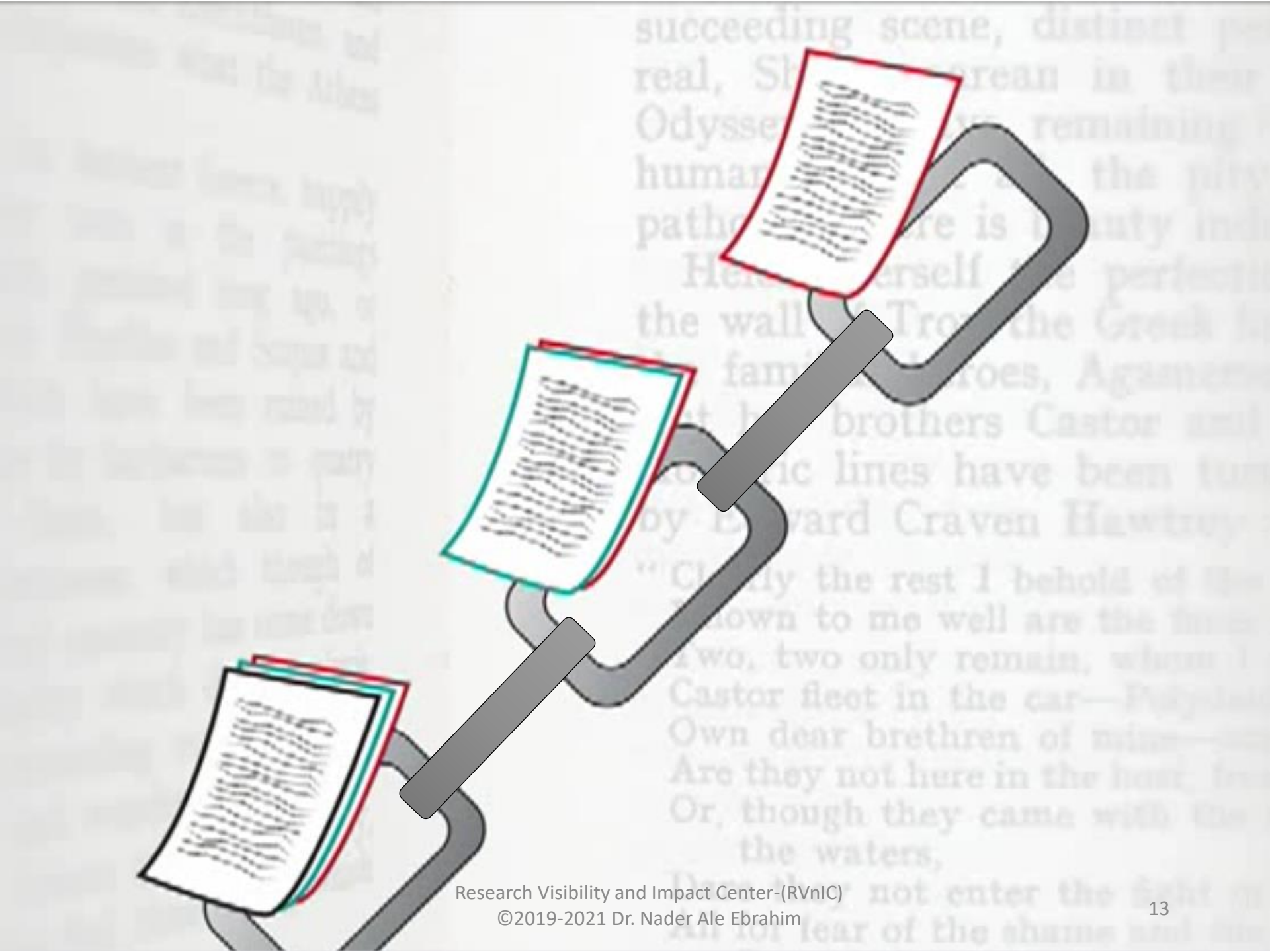

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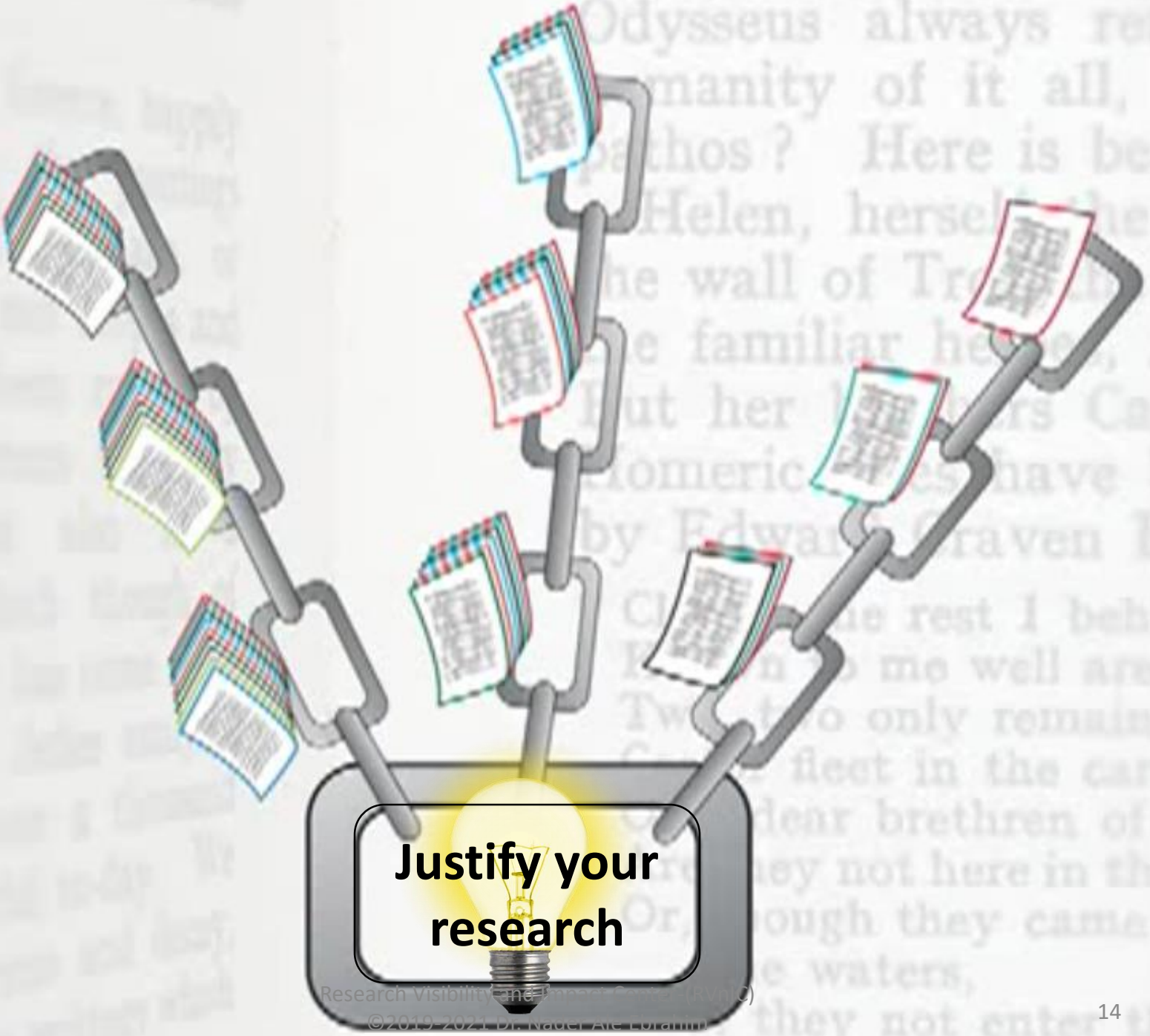
Justify your research

The literature review

A literature review ensures that you are at least familiar with the body of research in your field before starting your own investigations. Writing a literature review also provides practice in critical thinking. Once you have applied critical thinking skills to the findings of past researchers, you are in a better position to apply these same skills to your own work.

UNE. 2009. The literature review [Online]. University of New England. Available: http://www.une.edu.au/library/eskillsplus/literature/litreview.php [Accessed 25 January 2010].

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Source: https://storify.com/rasmimddesa/critical-thinking-in-education

Critical reading

Critical reading is the process of reading that goes beyond just understanding a text. Critical reading involves:

- Carefully considering and evaluating the reading
- Identifying the reading's strengths and implications
- Identifying the reading's weaknesses and flaws
- Looking at the 'big picture' and deciding how the reading fits into the greater academic context (the understandings presented in other books and articles on this topic)

Source: http://owll.massey.ac.nz/study-skills/critical-reading.php

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Critical reading

Critical reading often involves asking questions about the reading. In particular, you are examining the strengths and weaknesses of the reading's argument. To do this, you need to consider:

- the reading's background
- its purpose and overall conclusion (claim)
- the evidence used in the reading
- the logical connections between the claim and the evidence
- the reading's balance
- its limitations
- how it relates to other sources and research
- if the reading is based on research, how this research was conducted

Source: http://owll.massey.ac.nz/study-skills/critical-reading.php

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Systematic Review 1/2

- A systematic literature review is a means of identifying, evaluating and interpreting all available research relevant to a particular research question, or topic area, or phenomenon of interest. Individual studies contributing to a systematic review are called *primary studies; a systematic review is a form a secondary study.*

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Systematic Review 2/2

- A **systematic review** is a literature review focused on a research question that tries to identify, appraise, select and synthesize all high quality research evidence relevant to that question.

Source: http://en.wikipedia.org/wiki/Systematic_review

- A Guide to Writing the Dissertation Literature Review

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Reasons for Performing Systematic Reviews

- **To summarise** the existing evidence concerning a treatment or technology e.g. to summarise the empirical evidence of the benefits and limitations of a specific agile method.
- **To identify any gaps** in current research in order to suggest areas for further investigation.
- **To provide a framework/background** in order to appropriately position new research activities.

However, systematic reviews can also be undertaken to examine the extent to which empirical evidence supports/contradicts theoretical hypotheses, or even to assist the generation of new hypotheses

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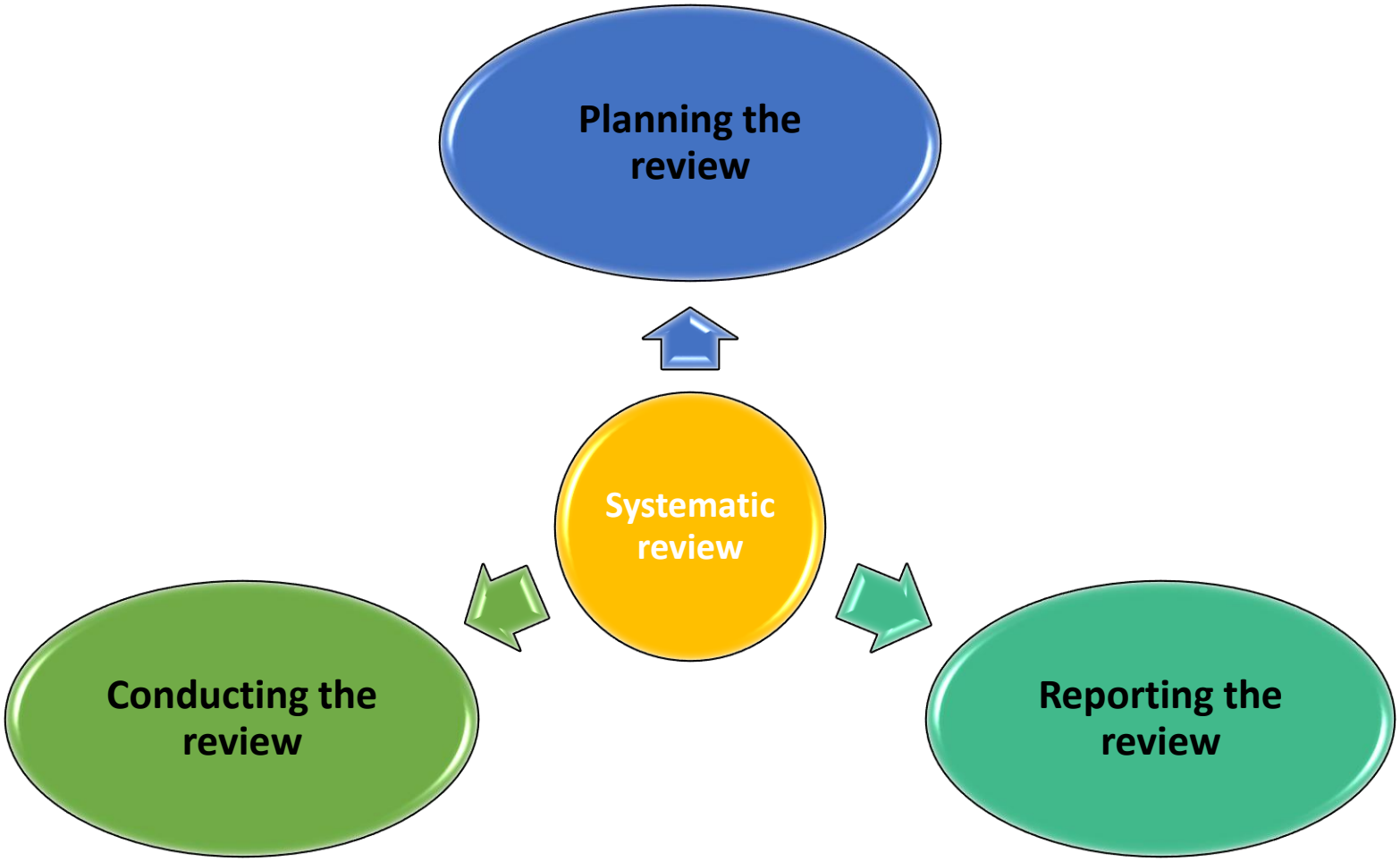
The Systematic Review Process



Source: Adapted from Kitchenham, B. (2004). Procedures for performing systematic reviews. *Keele, UK, Keele University*, *33*(2004), 1-26.

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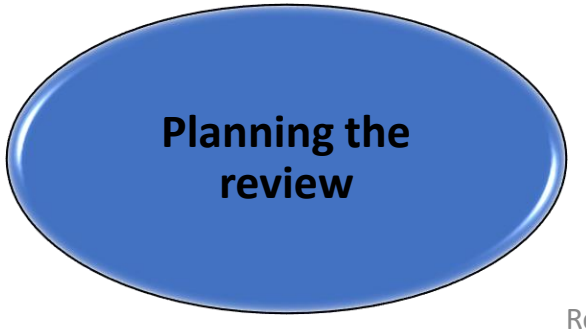
Planning the review

1. Identification of the need for a review
2. Development of a review protocol.

   (The most important activity during protocol is to formulate the research question.)



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Conducting the review

1. Identification of research
2. Selection of primary studies
3. Study quality assessment
4. Data extraction & monitoring
5. Data synthesis.

Conducting the review

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Reporting the review

Reporting the review is a single stage phase.

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Checklist for reading a review paper

- What are the review's objectives?
- What sources were searched to identify primary studies? Were there any restrictions?
- What were the inclusion/exclusion criteria and how were they applied?
- What criteria were used to assess the quality of primary studies and how were they applied?
- How were the data extracted from the primary studies?
- How were the data synthesised? How were differences between studies investigated? How were the data combined? Was it reasonable to combine the studies? Do the conclusions flow from the evidence?

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Checklist for reading a review paper-From a more general viewpoint

- Can you find an important question, which the review addressed?
- Was a thorough search done of the appropriate databases and were other potentially important sources explored?
- Was methodological quality assessed and the trials weighted accordingly?
- How sensitive are the results to the way that the review has been done?
- Have numerical results been interpreted with common sense and due regard to the broader aspects of the problem?

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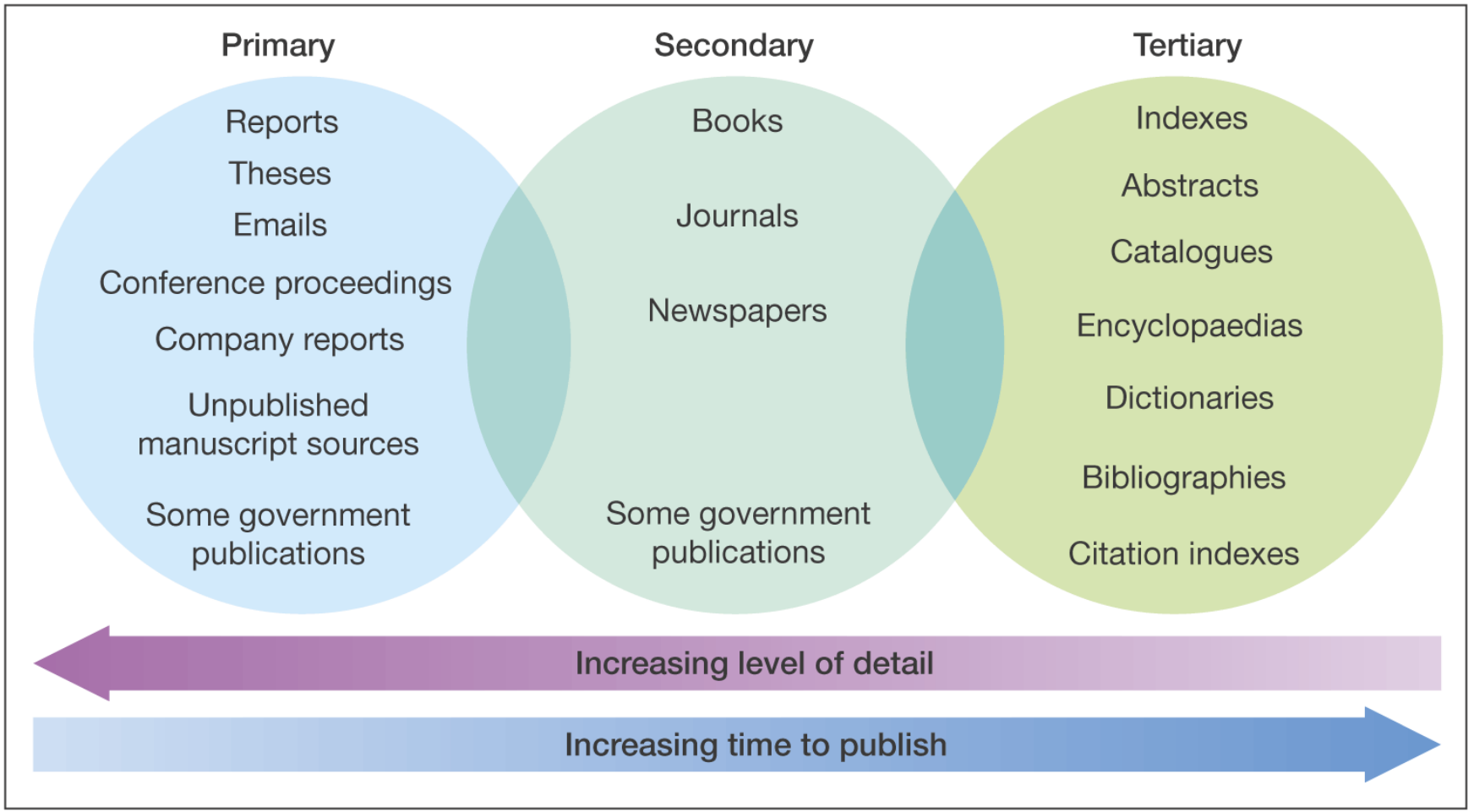

Literature sources available

Source: Research methods for business students / Mark Saunders, Philip Lewis, Adrian Thornhill. —5th ed.

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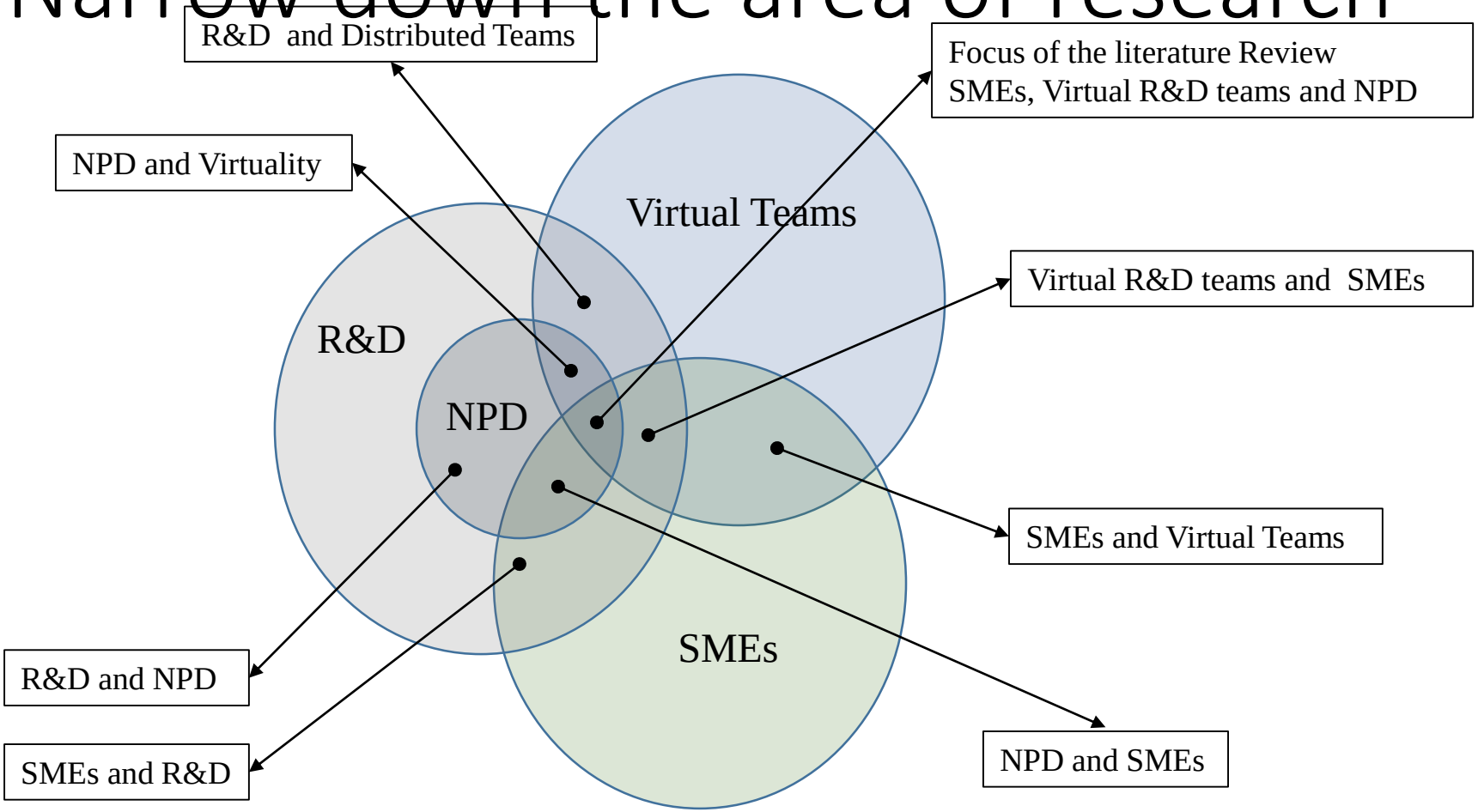
Narrow down the area of research



Ale Ebrahim, N., Ahmed, S., & Taha, Z. (2009). Virtual R & D teams in small and medium enterprises: A literature review. [Review]. Scientific Research and Essay, 4(13), 1575–1590.

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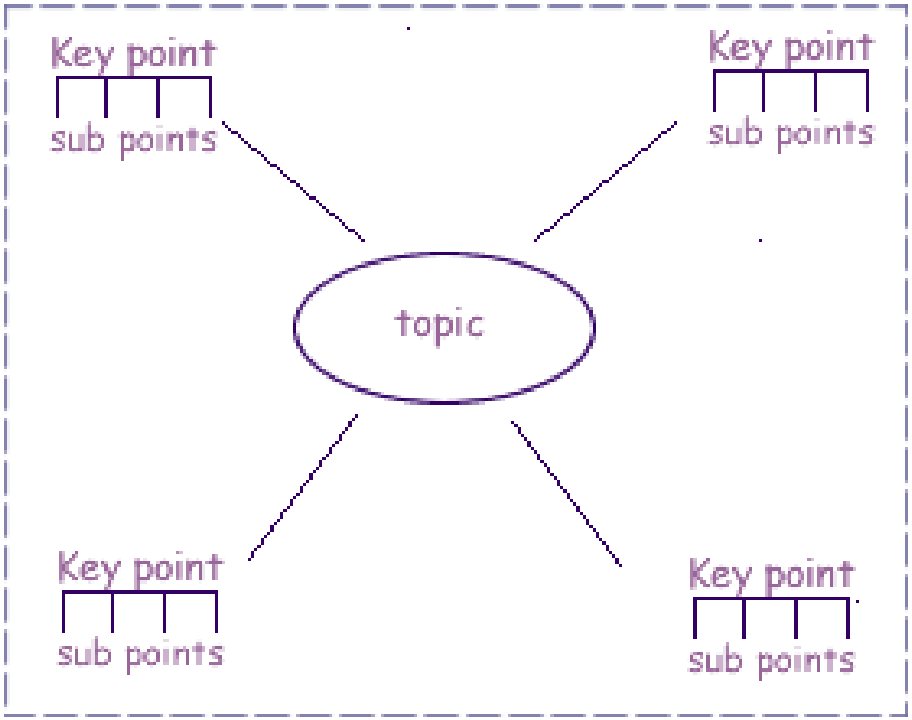
Structure & planning your writing - MindMaps

MindMaps are a visual map to link and organise key concepts of your research. They also show links and relationships between ideas. Sometimes it is a good idea to number key ideas in the order that you are going to place them in your literature review.

Example



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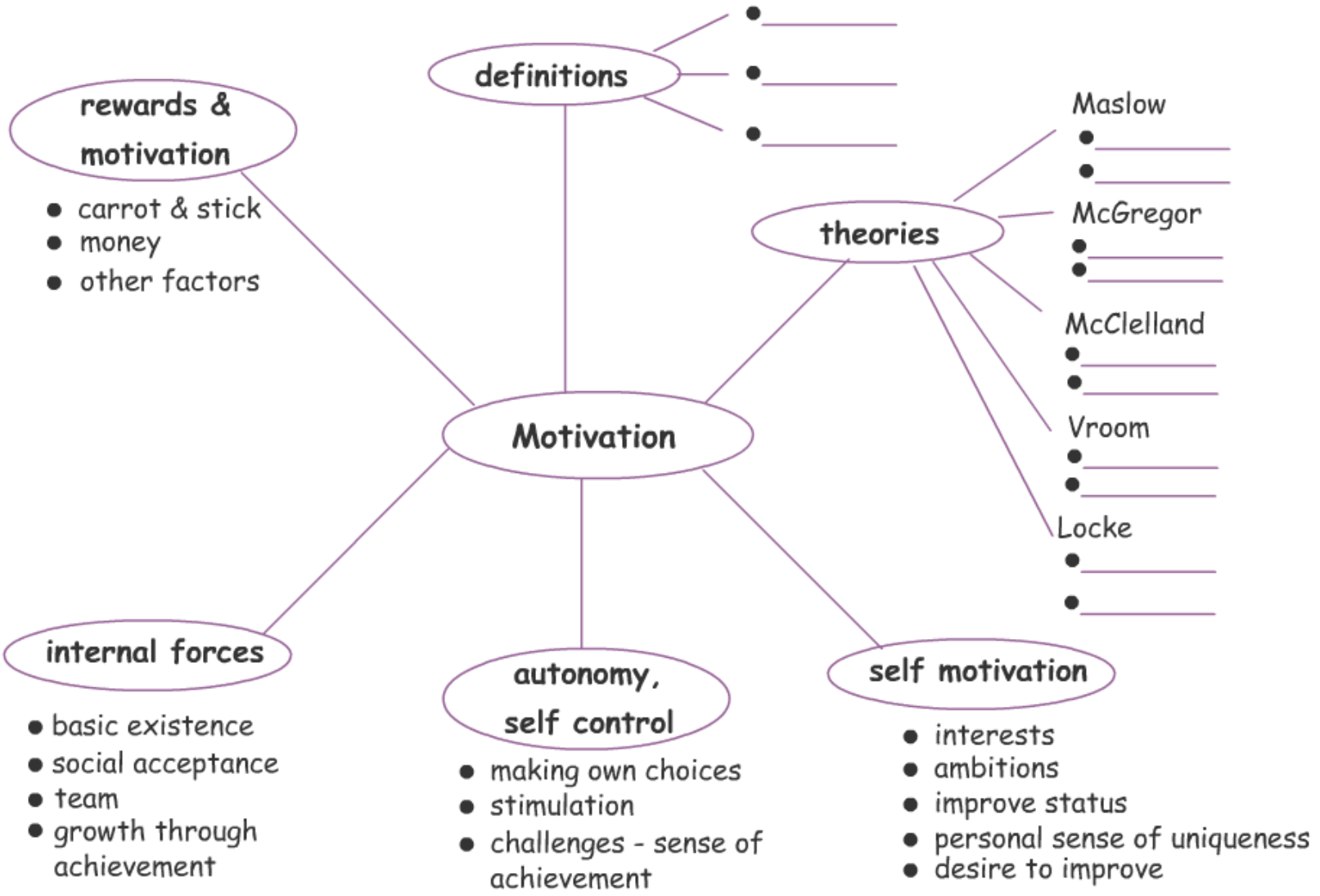
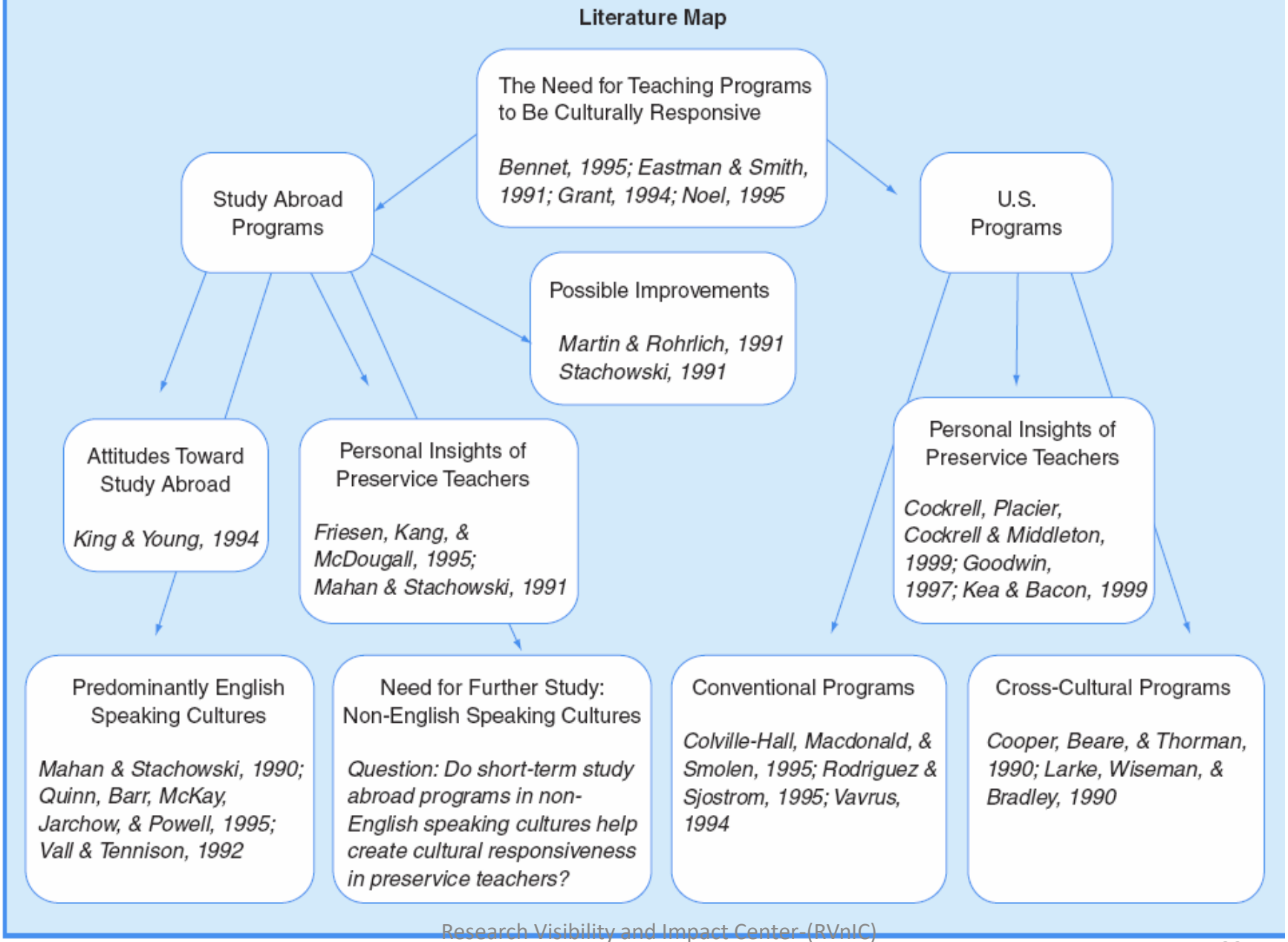
Example of a MindMap



A Literature Map, Hierarchical Design



Research Visibility and Impact Center (RVnIC)
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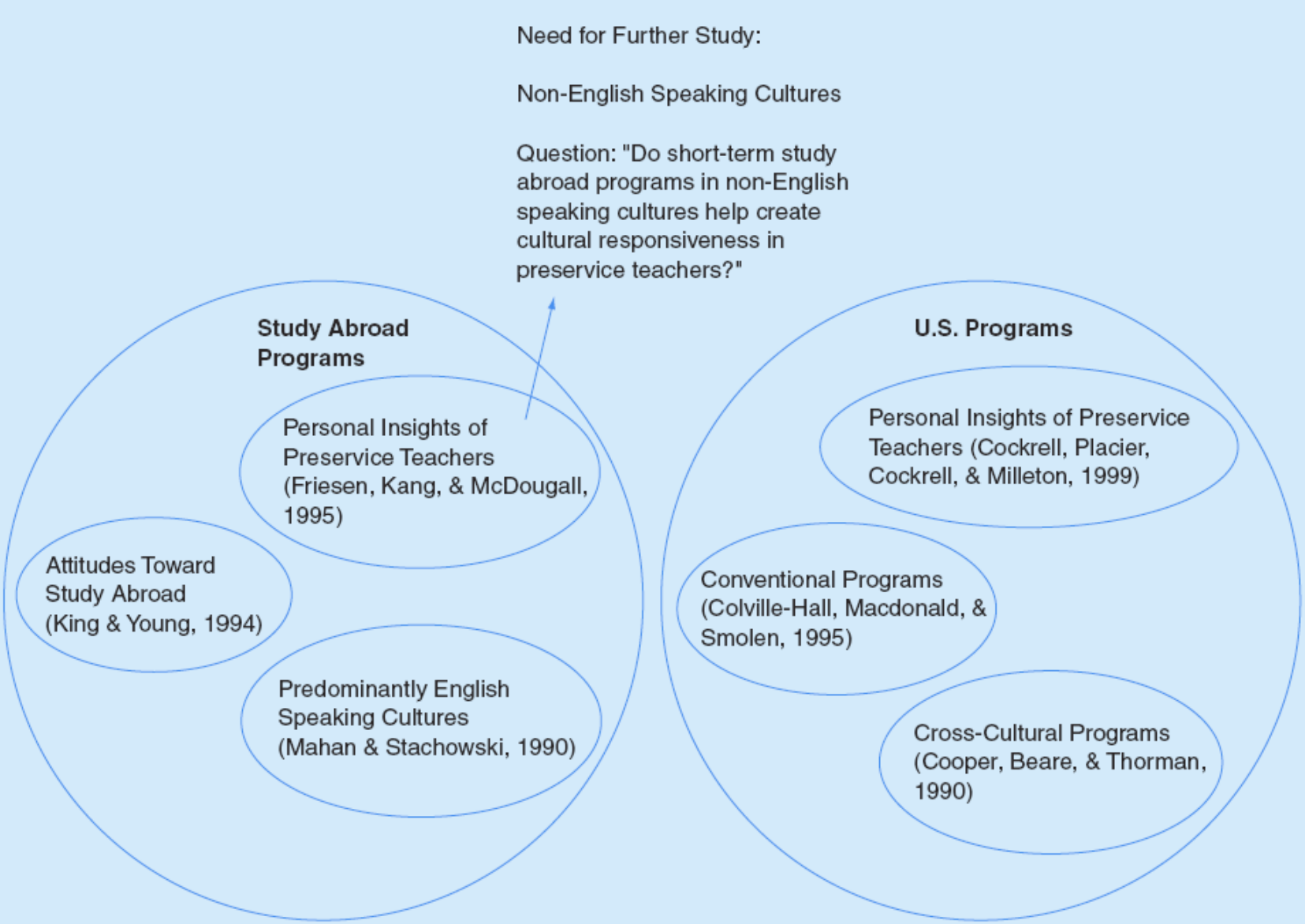
Source: Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed. ed.). Boston: Pearson Education, Inc.*

A Literature Map, Circular Design



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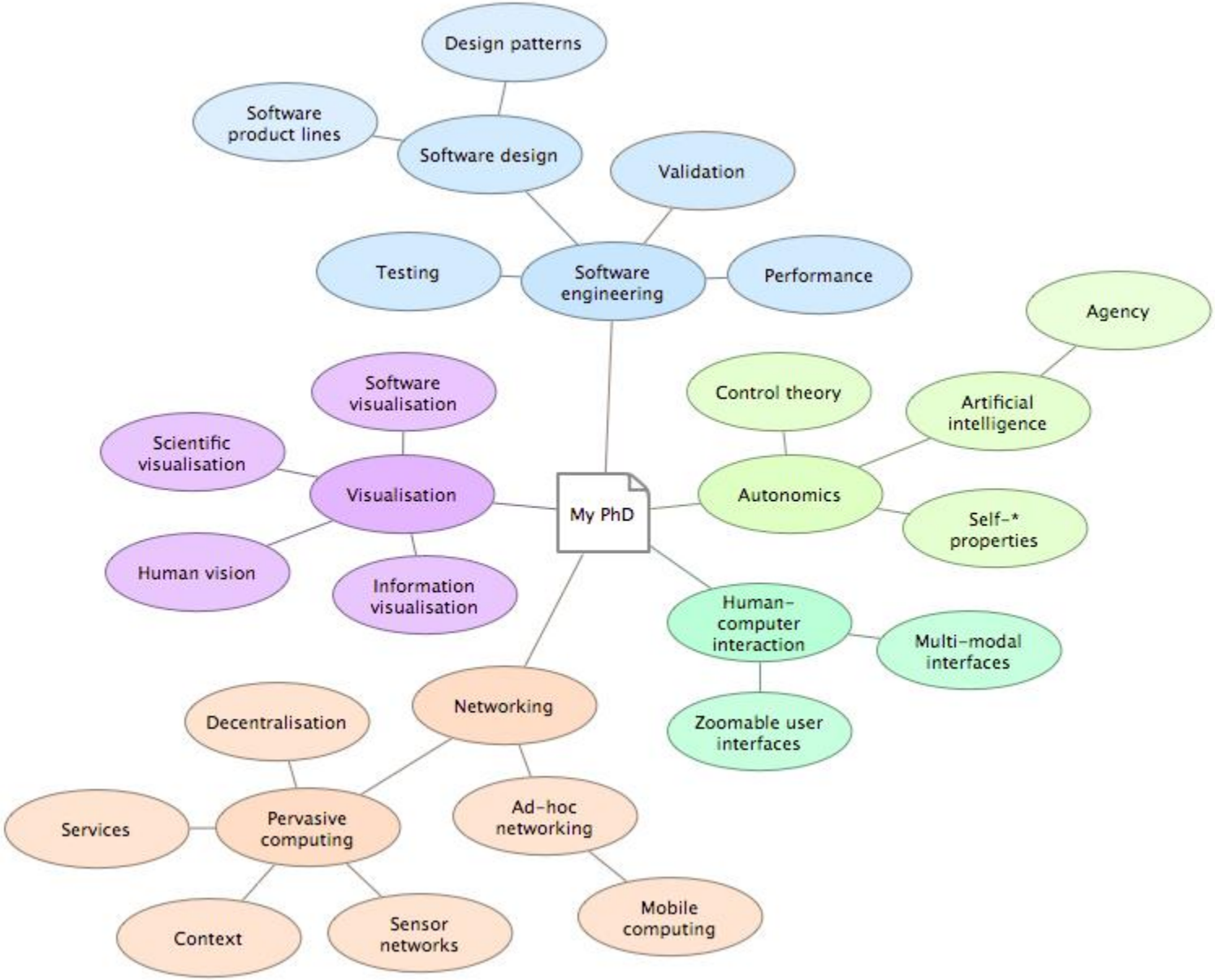
Source: Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed. ed.). Boston: Pearson Education, Inc.*



Source: Ross' PhD Literature Review Mind Map

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Review biases

- Read outdated version of a paper/book
- Reading but not writing
- Read unlinked papers (detect as much of the relevant literature as possible)
- Read before planning (defining a review protocol that specifies the research question being addressed)
- Start reading with few resources
- Language bias
- Publication bias
- Read everything
- Not keeping bibliographical information

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Identifying a Research Problem

Researchers begin a study by identifying a research problem that they need to address. They write about this "problem" in the opening passages of their study and, in effect, give you as a reader the rationale for why the study is important and why you need to read their study.

Reference: Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed. ed.). Boston: Pearson Education, Inc.*

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Reviewing the Literature

With so much information available, searching and locating good literature on your topic can be challenging. Five steps will provide a sense of how researchers proceed in reviewing the literature are:

1. ***Identify key terms to use in your search for literature.***
2. ***Locate literature about a topic by consulting several types of materials and databases,*** **including those available at an academic library and on the Internet.**
3. ***Critically evaluate and select the literature for your review.***
4. ***Organize the literature you have selected by abstracting or taking notes on the*** **literature and developing a visual diagram of it.**
5. ***Write a literature review that reports summaries of the literature for inclusion in your*** **research report.**

Reference: Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed. ed.). Boston: Pearson Education, Inc.*

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Tasks for first session

1. **Structure & planning your search** (Draw the literature map)
2. **Read:**
   - https://www.dlsweb.rmit.edu.au/lsu/content/2_AssessmentTasks/assess_tuts/lit_review_LL/reading.html
   - Cottrell, S. (2005). *Critical thinking skills - Developing Effective Analysis and Argument*. Basingstoke: Palgrave Macmillan.
   - Chapter 3 of "Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson Education, Inc*"
   - Chapter 3 of "Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Edinburgh Gate, Harlow, Essex CM20 2JE, England: Pearson Education Limited."

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Thank you!

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My recent publication:

1. Ale Ebrahim, S., Ashtari, A., Pedram, M. Z., & Ale Ebrahim, N. (2019). Publication Trends in Drug Delivery and Magnetic Nanoparticles. Nanoscale Research Letters, 14(59). doi: https://doi.org/10.1186/s11671-019-2994-y
2. Parnianifard, A., Azfanizam, A., Ariffin, M., Ismail, M., & Ale Ebrahim, N. (2019). Recent developments in metamodel based robust black-box simulation optimization: An overview. Decision Science Letters, 8(1), 17-44. doi:10.5267/j.dsl.2018.5.004. Available at SSRN: https://ssrn.com/abstract=3192794
3. Elaish, M. M., Shuib, L., Ghani, N. A., Mujtaba, G., & Ale Ebrahim, N. (2019). A Bibliometric Analysis of M-Learning from Topic Inception to 2015. International Journal of Mobile Learning and Organisation, 13(1), 91-112. https://doi.org/10.1504/IJMLO.2019.096470
4. Nordin, N., Samsudin, M.-A., Abdul-Khalid, S.-N., & Ale Ebrahim, N. (2019). Firms' sustainable practice research in developing countries: Mapping the cited literature by Bibliometric analysis approach. International Journal of Sustainable Strategic Management, 7(1/2). doi:. https://doi.org/10.1504/IJSSM.2019.099036
5. Hussein, M. H., Ow, S. H., Loh, S. C., Thong, M.-K., & Ale Ebrahim, N. (2019). Effects of Digital Game-Based Learning on Elementary Science Learning: A Systematic Review. IEEE Access, 7(1), 62465-62478. doi: https://doi.org/10.1109/ACCESS.2019.2916324

My recent presentations:

1. Ale Ebrahim, Nader (2019): Introduction to "Research Tools": Tools for Collecting, Writing, Publishing, and Improving Research Visibility. figshare. Presentation. https://doi.org/10.6084/m9.figshare.8258957.v1
2. Ale Ebrahim, Nader (2018): Publishing Procedure and Strategies to Improve Research Visibility and Impact. figshare. Presentation. https://doi.org/10.6084/m9.figshare.7475036.v1
3. Ale Ebrahim, Nader (2018): Scientific Misconduct. figshare. Presentation. https://doi.org/10.6084/m9.figshare.7471988.v1
4. Ale Ebrahim, Nader (2018): Collecting, Writing, and Publishing via "Research Tools". figshare. Presentation. https://doi.org/10.6084/m9.figshare.7472273.v1
5. Ale Ebrahim, Nader (2018): New Tools for Measuring Research Impact. figshare. Presentation. https://doi.org/10.6084/m9.figshare.7441403.v1

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References

1. Source: Ferenhof, H. A., & Fernandes, R. F. (2016). *Systematic Review and Bibliometrics: A Step-by-step Guide*. Retrieved from http://diva-portal.org/smash/get/diva2:768099/FULLTEXT01
2. Levy, Y., & Ellis, T. J. (2006). A systems approach to conduct an effective literature review in support of information systems research. *Informing Science: International Journal of an Emerging Transdiscipline*, *9*(1), 181-212.
3. UNE. 2009. The literature review [Online]. University of New England. Available: http://www.une.edu.au/library/eskillsplus/literature/litreview.php [Accessed 25 January 2010].
4. Research methods for business students / Mark Saunders, Philip Lewis, Adrian Thornhill. —5th ed.
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7. Mark Saunders, Philip Lewis, Adrian Thornhill and Martin Jenkins 2003, Research methods for business students / Mark Saunders, Philip Lewis, Adrian Thornhill. —5th ed.

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