

**ACADEMIC PROGRAMME: BSCS COMPUTER SCIENCE**

**COURSE CODE AND TITLE: BSCS 305: COMPUTING RESEARCH METHODS**

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## **LITERATURE REVIEW**

### **Expected Learning Outcomes:**

By the end of this lesson, you should be able to:

- i. Understand the role of literature review in research
- ii. Understand sources of information in research

### **Introduction**

- ❖ Literature review involves the systematic identification, location and analysis of documents containing information related to the research problem being investigated.
- ❖ Literature review should be thorough and extensive because it is aimed at obtaining detailed knowledge of the topic being studied

### **Purpose of Literature Review**

1. The main purpose of the literature review is to determine what has been done already related to the research problem that being studied. This will help the researcher to:
  - a. Avoid unnecessary and unintentional duplication
  - b. Form the framework within which the research findings are to be interpreted
  - c. Demonstrate his or her familiarity with existing body of knowledge – this increases the reeadere's confidence in the researcher's professional ability
2. A review of literature will reveal what strategies, procedures and measuring instruments have been found useful I investigating the problem in question. This information will help the researcher to avoid the mistakes that had been done by other researchers and help them learn from other researcher's experiences
3. Literature review, in ost cases, will suggest other procedures and approaches. This is very useful as the researcher could try other methods that could improve on the research process
4. Also help the researcher to be familiar with previous studies so that there is a way in which the current research will be interpreted
5. The literature review, in some cases will help the researcher to narrow their statement. In this case, the researcher could still not have narrowed their research focus.

6. Literature review stimulates new approaches and help come up with new ideas because of ideas that could have been overlooked before
7. Approaches which have been proved futile will be revealed in the literature review.
8. In most cases, researchers will include a section of suggestions and recommendations for further research. It is these recommendations which will be considered carefully
9. Literature review summarizes and integrates what is known in an area

### **Scope of Literature Review**

- ❖ In many cases, researchers will want to know how wide or narrow they should go about in their literature review – when should you stop reviewing?
- ❖ How relevant is my literature review?
- ❖ These are relevant questions in this section and there is no definite answer to how to go about; they get answered with experience
- ❖ If the area of study has been studied for a long time, just read the areas that are reasonably close to your area of research
- ❖ In new or little researched areas, read and review any available literature so as to develop a logical framework for the study
- ❖ Avoid including a lot of material – a lot of information does not mean great research information
- ❖ Avoid re-reviewing material that has already been reviewed

### **Steps in Carrying out Literature Review**

1. Be familiar with the library before carrying out the literature review
2. Make a list of keywords or phrases to guide in the literature search
3. After getting the list of keywords and phrases, the next step is to go to the source of the literature – library
4. Summarise the references on cards for easy organization of the literature
5. After they have been collected, the literature should then be analyzed, organized and reported in an orderly manner
6. Make an outline of the main topics or themes in order of presentation – also decide on the headlines and the sub-headlines you will need in your study
7. Analyze each reference in terms of the outline made and establish where it will be more relevant

8. Studies contrary to received wisdom should not be ignored - understand why the two studies differ
9. The literature should be organized in such a way that the more general is covered first before the researcher narrows down to that which is more specific to the research problem
10. Have a brief summary of the literature and its implications

### **Sources of Literature**

The sources of information can be classified in two broad categories:

- ❖ Primary sources – a primary source is a direct description of any occurrence by an individual who actually observed or witnessed the occurrence. In research, this is description of a research by a person who actually carried the research
- ❖ Secondary sources – these include any publication written by an author who was not a direct observer or participant in the events described

### **Examples of Sources of Information**

1. Scholarly journals – found in the library or the internet in referenced journals which have the name of the author, and the year of publication
2. Theses and dissertations – these are the work of past masters and PhD students that have been published
3. Government documents – they include policy papers, research reports, and even those that have been carried out by international agencies
4. Papers presented at conferences – such papers get published in conference proceedings or referred journals
5. Books – subject bibliographies can be found in the library and one is able to get information about the book they would like to get access in the library
6. References quoted in books – the references given at the back of a relevant book may reveal more relevant sources, i.e books or journals
7. International indices - these are important sources which list theses and dissertations which have been written in a particular area of specialization
8. Abstracts – abstracts give a list of journal articles with summaries – they will give the name, volume and issue number of the journal where the full article can be found. Examples include nutritional abstracts, biological abstracts, computer abstracts, and home economics abstracts
9. Periodicals – these include journals, magazines, or local newspapers which are published periodically
10. The Africana section of the library – this is a special place in African libraries, where material about Kenya by Kenyans are kept

11. References section of the library – this is the section in the library where books classified as references are kept – e.g dictionaries, encyclopedias, biographies, manuals, or handbooks
12. Grey literature – grey literature is anything that is written but not published. Examples include lecture notes or papers presented at conferences
13. Inter-library loans – when a certain source is not available in the library, it can be borrowed from another library
14. British lending library – The British Council in Kenya has a library that is open to members of the public
15. Computer search – the section in the library where access to libraries can be accessed. Is also available to students and staff on their laptops as long as they access them through university internet.
16. Microfilm – this is where information, especially old information is stored in microfilm and only accessed when needed – saves space
17. The Internet – it is a common source of information. One should not use such sources as Wikipedia because they are not trusted sources.

### **Tips on Good Literature Review**

1. Do not conduct a hurried literature review – important information could be overlooked
2. Do not rely too heavily on secondary sources
3. Do not focus on the findings only from the literature, also look at the methodology used
4. It is also good practice to look at newspapers as they contain important and informative sources of information
5. It is important to copy a references to avoid the frustratons of trying to retrace

### **In-text Referencing**

- ❖ In-text citation is accrediting a statement or finding to another author to show that the statement or finding is by another author
- ❖ Can be done paraphrased and thus will not need quotations

### **Example**

- ❖ Among the economic factors that affect satisfaction with quality of life, income has been found to be positively related to satisfaction with quality of life (Berry and Williams, 2017)

- ❖ In the above statement, the authors are Berry and Williams, and the work was published in 2017.
- ❖ Try as much as possible to give recent work – the last 5 years is recommended
- ❖ Sometimes the author's name can come at the beginning of a sentence and the year of publication is put in brackets

### **Example**

- ❖ Berry and Williams (2017) found a positive relationship between income and satisfaction with quality of life
- ❖ **Direct quotations** can be used when no change has been made on the text for the sake of accuracy
- ❖ direct quotes is also used when the text is not clear or not understood
- ❖ It is also useful when the source is trusted and the researcher would want to add strength to their work
- ❖ When a direct quote is used, it should be presented in exactly the same way it was presented
- ❖ If there is a break, this should be presented with the use of eclipses
- ❖ If there are additions to the quotations, they should be rendered in italics or placed in brackets

### **Example**

- ❖ "From the point of view of FAWE, all girls should have access to education at all levels of Educational Systems". (FAWE, 1998, p. 20)

### **Cited References and Bibliography**

- ❖ Cited references refer to a list of references which the researcher actually read and cited in the text
- ❖ Bibliography refers to the list of materials that were read whether they are cited or not
- ❖ References and Bibliography are used synonymously
- ❖ A research could decide:
  - Include the cited references only
  - Have cited references and also bibliography. In this case the cited references are separated and do not need to be repeated in the bibliography
  - Have a bibliography only which will have all the references, that is, those cited and those that were just read to gather information
- ❖ There are various ways of writing references and bibliographies
- ❖ The format will depend in the university or on the journal publishing the work
- ❖ Here at Gretsa University, we use APA (American Psychological Association) manual

## APA Referencing for Various Sources

### ❖ Journal article – One author

- Moon, M. (2018) Consumer issues and the elderly. *Journal of Consumer Affairs*, 24 235-244

### ❖ Journal article – Two authors

- Hira, K. Tahira, & Mugenda, OM (2017) Families' perception of the bankruptcy process. *Family Perspectives*, 21, No. 1, May, 2017

### ❖ Journal article – more than two authors

- Palmore, F.B., Fillenbaum, S.S. & George, L.K. (2018). Consequences of retirement. *Journal of Gerontology*, 39. 109-116
- Charousset, D., Hiesgen, R., & Schmidt, T. C. (2016). Revisiting actor programming in C++. *Computer Languages, Systems & Structures*, 45, 105-131.

### ❖ Paper presented at a conference

- Galindo, J., Galindo, P., & Corral, J. M. R. (2019, November). Multimedia System for Self-learning C/C++ Programming Language. In *International Conference Europe Middle East & North Africa Information Systems and Technologies to Support Learning* (pp. 55-64). Springer, Cham.

### ❖ Newspaper article

- Ng'weno, H.B. (2016, September). Multiply and fill the earth. *The Weekly Review*, pp 15-17
- Watoro Kamau (August 9<sup>th</sup>, 2019) New Campaign on Child Labor. *The Daily Nation* pp. 17

### ❖ Book

- Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle*. Publisher Name.

### ❖ Electronic Sources (from internet)

- *Title of page*. (Year, Month Date). Site name. Retrieved Month Date, Year, from URL

### Example

- *Tuscan white bean pasta*. (2018, February 25). Budgetbytes. Retrieved March 18, 2020, from <https://www.budgetbytes.com/tuscan-white-bean-pasta/>







## **Further E-Resource Readings**

Lune, H., & Berg, B. L. (2016). *Qualitative research methods for the social sciences*. Pearson Higher Ed.

### **7.0 REFERENCE JOURNALS**

Lazar, J., Feng, J. H., & Hochheiser, H. (2017). *Research methods in human-computer interaction*. Morgan Kaufmann.