MODULE 2

SYLLABUS:

Literature Review and Technical Reading: New and Existing Knowledge, Analysis and Synthesis of Prior Art, Bibliographic Databases, Web of Science, Google and Google Scholar, Effective Search: The Way Forward Introduction to Technical Reading Conceptualizing Research, Critical and Creative Reading, Taking Notes While Reading, Reading Mathematics and Algorithms, Reading a Datasheet.

Attributions and Citations: Giving Credit Wherever Due, Citations: Functions and Attributes, Impact of Title and Keywords on Citations, Knowledge Flow through Citation, Citing Datasets, Styles for Citations, Acknowledgments and Attributions, What Should Be Acknowledged, Acknowledgments in, Books Dissertations, Dedication or Acknowledgments.

The primary goal of **literature review** is to know the use of content/ideas/approaches in the literature to correctly identify the problem that is vaguely known beforehand, to advocate a specific approach adopted to understanding the problem, and to access the choice of methods used. It also helps the researcher understand clearly that the research to be undertaken would contribute something new and innovative. The quality of such review can be determined by evaluating if it includes appropriate breadth and depth of the area under study, clarity, rigor, consistency, effective analysis.

New and Existing Knowledge

New knowledge in research can only be interpreted within the context of what is already known and cannot exist without the foundation of existing knowledge. One can infer that the knowledge that is sought to be produced does not yet exist by describing what other knowledge already exists and by pointing out that this part is missing so that what we have is original.

Normally, one finds this knowledge by reading and surveying the literature in the field that was established long ago and about the more recent knowledge which is in fact always changing. With this foundation in place, the new knowledge that one will make will be much more difficult to challenge than without that strong foundation in place which is ensured with lots of references to literature.

Reading the textbooks on one's topic provide the established knowledge and the background to be able to read the newer work usually recorded in the research papers. In the case with a research paper where the goal is normally to present a small piece of new knowledge, and that new knowledge will not have stood the test of time in the same way as the knowledge in a textbook would have. The research paper is written for other researchers out on the edge of knowledge, and it assumes that the reader already knows a lot in that field. objective with all this reading and learning is to be able to get the knowledge that one needs to build the foundation. Useful research should elucidate how and why certain technical developments took place, so that it is easy for the reader to comprehend why the present talk is being undertaken, and a good literature survey would provide a convincing under to that question. An effective review of literature ensures a firm foundation for advancing knowledge, facilitates theoretical growth, eliminates areas that might be of interest, and opens new avenues of possible work. An efficient literature review is centered around concepts and not authors.

A good literature review would not draw hasty conclusions and investigate the individual references to determine the underlying causes/assumptions/mechanisms in each of them so as to synthesize the available information in a much more meaningful way. A literature review should be able to summarize as to what is already known from the state of the art, detail the key concepts and the main factors or parameters and the underlying relationships between those, describe any complementary existing approaches, enumerate the inconsistencies or shortcomings in the published work, identify the reported

results that are inconclusive or contradictory, and provide a compulsive reason to do further work in the field.

A good literature survey is typically a two-step process as enumerated below:

i) Identify the major topics or subtopics or concepts relevant to the subject under consideration.
ii) Place the citation of the relevant source (article/patent/website/data, etc.) in the correct category of the concept/topic/subtopic (with the help of a tick mark for example).

A comprehensive literature survey should methodically analyze and synthesize quality archived work, provide a firm foundation to a topic of interest and the choice of suitable research methodologies, and demonstrate that the proposed work would make a novel contribution to the overall field of research.

Analysis and Synthesis of Prior Art

After collecting the sources, usually articles, intended to be used in the literature review, the researcher is ready to break down each article and identify the useful content in it, and then synthesize the collection of articles (integrate them and identify the conclusions that can be made from the articles as a group). A literature survey grid of N topics and M sources is shown below to help crystallize the information in different categories.

A researcher should analyze the relevant information ascertained by undertaking the following steps:

i. Understanding the hypothesis.
ii. Understanding the models and the experimental conditions used,
iii. Making connections,
iv. Comparing and contrasting the various information, and
v. Finding out the strong points and the loopholes.

The goal of literature survey is to bring out something new to work on through the identification of unsolved issues, determine the problems in the existing models or experimental designs, and present a novel idea and recommendations. No matter where one gets the available information, one needs to critically evaluate each resource that the researcher wishes to cite. This methodology analyzes available materials to determine suitability for the intended research. Relying on refereed articles published in scholarly journals or granted patents can save the researcher a lot of time.

Few criteria that could help the researcher in the evaluation of the information under study:

- **Authority:** What are the author's credentials and affiliation? Who publishes the information?
- **Accuracy:** Based on what one already knows about the topic or from reading other sources, does the information seem credible? Does the author cite other sources in a reference list or bibliography, to support the information presented?
- **Scope:** Is the source at an appropriate comprehension or research level?

Bibliographic Databases

"Bibliographic databases" refer to "abstracting and indexing services" useful for collecting citation-related information and possibly abstracts of research articles from scholarly literature and making them available through search. Performing simultaneous searches through such large databases may allow researchers to overtly rely on any one database and be limited by the intrinsic shortcoming of any one of them for quality research. A researcher should be able to quickly identify the databases that are of use in the idea or problem that one wishes to explore. In this section, we present some details about a few of the popular bibliographic databases most sought after by engineering researchers, but do not attempt to provide exhaustive details.

Web of Science: Web of Science (formerly known as ISI or Thomson Reuters) includes multiple databases, as well as specialized tools. It is a good search tool for scholarly materials requiring institutional license and allows the researcher to search in a particular topic of interest, which can be

made by selection in fields that are available in drop down menu such as title, topic, author, address, etc. The tool also allows sorting by number of citations (highest to lowest), publication date.

Put quotes around phrases, add more keywords, or use the "Refine Results" panel on the left to narrow down the search by keyword, phrases in quotation marks, type of material such as peer-reviewed journal articles, date, language, and more. Expanding the search results is possible by looking for alternate word endings, breaking the search concepts down, thinking of alternate search terms (including scientific names if applicable) and connecting them with OR, and using the database's features for finding additional references. "Cited reference search" option enables a researcher to trace articles which have cited a formerly published paper. Using this element, it is possible to find how a familiar idea has been applied, improved, or extended subsequently.

Based on the researcher's need the search result can be broadened or narrowed down using the built-in fields provided in this website. When clicked on any of the search results, this website provides the title of the paper, authors, the type of journal, volume, issue number and year of publication, abstract, keywords, etc., so that the researcher has enough information to decide if it is worthwhile to acquire the full version of the paper.

Google and Google Scholar:

Google is a great place to start one's search when one is starting out on a topic. It can be helpful in finding freely available information, such as reports from governments, organizations, companies, and so on.

Limitations:

1. It's a "black box" of information. It searches everything on the Internet, with no quality control—one does not know where results are coming from.
2. There are limited search functionality and refinement options.

Google Scholar limits one's search to scholarly literature.

Limitations:

1. Some of the results are not actually scholarly. An article may look scholarly at first glance, but is not a good source upon further inspection.
2. It is not comprehensive. Some publishers do not make their content available to Google Scholar.
3. There is limited search functionality and refinement options.

Operators can be combined within searches. Some basic ones that one can use:

(i) OR—Broadens search by capturing synonyms or variant spellings of a concept. Example: Synchronous OR asynchronous will find results that have either term present.
(ii) Brackets/Parentheses ( )—Gather OR's synonyms of a concept together, while combining them with another concept. Example: RAM (synchronous OR asynchronous).
(iii) Quotation marks " "—Narrow the search by finding words together as a phrase, instead of separately. Example: RAM (synchronous OR asynchronous) "Texas Instruments".
(iv) Site—limits the search to results from a specific domain or website. This operator is helpful when searching specific websites such as the BC government, which is Example: RAM (synchronous OR asynchronous) "Texas Instruments" site: http://ieeexplore.ieee.org.
(v) Filetype—limits the search to results with a specific file extension one could look for pdf's, PowerPoint presentations, Excel spreadsheets, and so on. Example: RAM (synchronous OR asynchronous) "Texas Instruments" site: http:// ieeexplore.ieee.org, filetype: pdf.

To find the best resources on a topic, one should search in academic databases, in addition to Google. Databases provide access to journal articles and conference proceedings, as well as other scholarly resources. One gets more relevant and focused results, because they have better quality control and search functionality. One should choose a database based on subject area, date coverage,

and publication type. Interfaces vary between databases, but the search techniques remain essentially the same.

Effective Search: The Way Forward

A scholarly publication is one wherein the published outcome is authored by researchers in a specific field of skill. Such work cites all source contents used and is generally peer reviewed for accuracy and validity before publication. Essentially, the audience for such works is fellow experts and students in the field. The content is typically more complex and advanced than those found in general magazines. Most of the engineering researchers need to refer articles that appear in scholarly journals, books or other peer-reviewed sources, there is also a substantially useful content in more popular publications. A researcher must consider what type of information is needed, and where it could be found. Not all information is available online. Some information is only available in print. It can take time for scholarly and peer-reviewed information to be published. One might not be able to find scholarly information about something currently being reported in the news. The information may not be available, or studies on a topic of interest to the researcher have not occurred. In such a case, the researcher should look for similar studies that would be applicable to the specific topic; look for broad information (general process, technology, etc.), as well as information that addresses the specific context of the researcher's report.

Searching is an iterative process:

• Experiment with different keywords and operators;
• Evaluate and assess results, use filters;
• Modify the search as needed; and
• When relevant articles are found, look at their citations and references.

After the search is complete, the researcher needs to engage in critical and thorough reading, making observation of the salient points in those sources, and summarize the findings. A detailed comparison and contrast of the findings is also required to be done. This entire process may be needed to be done multiple times. The conclusion of the entire process of literature survey includes a summary of the relevant and important work done, and also the identification of the missing links and the challenges in the open problems in the area under study. One must note that the literature survey is a continuous and cyclical process that may involve the researcher going back and forth till the end of the research project.

Introduction to Technical Reading

Finding the right work to read can be difficult. The literature where knowledge is archived is very fragmented and there are bits and pieces all over the place. Very rarely will one find everything that one wants close together in one place. number of papers relevant to a particular researcher is very few, compared to the actual number of research.

Papers available from peer-reviewed technical sources. It is also important to know where to read from; relying on refereed journals and books published by reputed publishers is always better than relying on easily available random articles off the web.

It is not the same as reading a newspaper. It may require rereading the paper multiple times and one might expect to spend many hours reading the paper. Amount of time to be spent will get ascertained after an initial skimming through the paper to decide whether it is worth careful reading. There will also be papers where it is not worth reading all the details in the first instance. It is quite possible that the details are of limited value, or simply one does not feel competent to understand the information yet.

1) Start out the skimming process by reading the title and keywords. If it does not sufficiently seem to be interesting; it is better to stop reading.
2) Read the abstract to get an overview of the paper in minimum time. Again, if it does not seem sufficiently important to the field of study, one should stop reading further

3) If the paper has continued to be of interest so far, then one is now ready to delve into the Introduction section to know the background information about the work and also to ascertain why the authors did that particular study and in what ways the paper furthers the state of the art
4) Next sections to read are the Results and Discussion sections which is really the heart of the paper. One should really read further sections like the Experimental Setup/Modeling, etc., only if one is really interested and wishes to understand exactly what was done to better understand the meaning of the data and its interpretation.

A researcher will always need to be searching for the relevant literature and keeping up to date with it. If one is busy with a small project, the advisor might just give a single important paper to read. But with a larger one, you will be searching for one's own literature to read. For this one will need a strategy as there is just too much work out there to read everything.

Conceptualizing Research

The characteristics of a research objective are that it must have new knowledge at the center, and that it must be accepted by the community of other researchers and recognized as significant. If one is doing research at the Ph.D. level or higher, then conceptualizing the research is probably something that one needs to do oneself. This is a very tough step because one needs to know all that literature in the field. prepared to become that expert, one needs to be continually reading the literature so as to bring together the three parts:

1) significant problem
2) the knowledge that will address it, and
3) possible way to make that new knowledge.

As engineers, we like to build things, and that's good, but the objective of research is to make knowledge. If one's research is about building something, one ought to take a step back and ask if new knowledge is being formulated. Even if what one is building is new and has never been built before, if it is something that any experienced and competent engineer could have come up with, one runs the risk of one's work being labeled obvious and rejected as research.

Critical and Creative Reading

Reading a research paper is a critical process. The reader should not be under the assumption that reported results or arguments are correct. Rather, being suspicious and asking appropriate questions is in fact a good thing. Have the authors attempted to solve the right problem? Are there simpler solutions that have not been considered? What are the limitations (both stated and ignored) of the solution and are there any missing links? Are the assumptions that were made reasonable? Is there a logical flow to the paper or is there a flaw in the reasoning? These need to be ascertained apart from the relevance and the importance of the work, by careful reading.

1) Use of judgmental approach and boldness to make judgments.
2) Flexibility to discard previous erroneous judgments is also critical.
3) ascertain whether the data presented in the paper is right data to substantiate the argument that was made in the paper and whether the data was gathered and interpreted in a correct manner.
4) Decipher whether some other dataset would have been more compelling.
5) idea is to actively look for other applications, interesting generalizations, or extended work which the authors might have missed.

Taking Notes While Reading

The bridge between reading and writing a paper is the act of taking notes during and shortly after the process of reading. Many researchers take notes on the margins of their copies of papers or even digitally on an article aggregator tool. In each research paper, there are a lot of things that one might like to highlight for later use such as definitions, explanations, and concepts. If there are questions of

criticisms, these need to be written down to avoid being forgotten later. Such efforts pay significantly when one must go back and reread the same content after a long time.

On completing a thorough reading, a good technical reading should end with a summary of the paper in a few sentences describing the contributions. But to elucidate the technical merit, the paper needs to be looked at from comparative perspective with respect to existing works in that specific area. A thorough reading should bring out whether there are new ideas in the paper, or if existing ideas were implemented through experiments or in a new application, or if different existing ideas were brought together under a novel framework.

Reading Mathematics and Algorithms

Mathematics is often the foundation of new advances, for evolution and development of engineering research and practice. An engineering researcher generally cannot avoid mathematical derivations or proofs as part of research work. In fact, these are the heart of any technical paper. Therefore, one should avoid skimming them. By meticulous reading of the proofs or algorithms, after having identified the relevance of the paper, one can develop sound understanding about the problem that the authors have attempted to solve.

Implementation of an intricate algorithm in programming languages such as C, C++ or Java is prone to errors. And even if the researcher is confident about the paper in hand, and thinks that the algorithm will work, there is a fair chance that it will not work at all. So one may wish to code it quickly to check if it actually works.

Reading a Datasheet

Researchers in different fields of engineering will need to read certain types of documents. For example, mechanical and civil engineers would need to read drawings related to mechanical parts and buildings. Researchers in the field of electronics need to read datasheets. On occasions, researchers in other fields may also need to incorporate a certain electronic part in which case careful reading of the datasheet is imperative. The same principles like initial skimming of the datasheet are required to ascertain whether further careful reading is needed.

Datasheets are instruction manuals for electronic components, which (hopefully) details what a component does and how one may use it. Datasheets enable a researcher (or a working professional) to design a circuit or debug any given circuit with that component. The first page of the datasheet usually summarizes a part's function and features, basic specifications, and usually provides a functional block diagram with the internal functions of the part.

When working with a new part, or when deciding which part to use in the research work, it is recommended to carefully read that part's datasheet to come up with a bit of shortcut that may potentially save many hours later.

Attributions and Citations

Academic writing, by definition, must follow certain rules and conventions. Among the most important of these are the rules and conventions about citing, referencing, attributing, and acknowledging the works of others. That means giving proper credit wherever due. Citing is the practice of quoting from, referring to other authors' works and ideas in the text of our work in such a way that the context is clear to the reader. Referencing is the listing of the full publication details of a published work that is cited so as to give background information to the readers.

Citations: Functions and Attributes

Citations (references) credit others for their work, while allowing the readers to trace the source publication if needed. Any portion of someone else's work or ideas in papers, patents, or presentations must be used in any new document only by clearly citing the source. This applies to all forms of written sources in the form of texts, images, sounds, etc. and failure to do may be considered plagiarism.

There are well-established means of preventing and spreading knowledge through publication of patents, papers (conference paper and the peer-reviewed journal paper), or articles, and through textbooks and classrooms. While it is true that research needs to leverage the prior art in the area of research interest so as to make further development, at the same time it is important to ensure that credit for that existing knowledge is suitably acknowledged.

When a bibliography of previously published patents or papers is placed in the new works of a researcher, a connection is established between the new and previous work. As per relevance to context, the researcher provides due credit through the use of a citation. Citations help the readers to verify the quality and importance of the new work and justification of the findings. It is a way to tell readers that certain material in the researcher's present work has come from another source and as an ethical responsibility, appropriate credit has been given to the original author or writer. Materials that can be cited include journal papers, conference proceeding, books, theses, newspaper articles, websites, or other online resources and personal communication. Preferably, citations should be given at the end of a sentence or the end of a paragraph as can be seen even in this particular paragraph. Citation must contain enough details so that readers can easily find the referenced material.

A researcher needs to cite each source twice: (i) in-text citation, in the text of the article exactly where the source is quoted or paraphrased, and (ii) a second time in the references, typically at the end of the chapter or a book or at the end of a research article. Most citation styles have the same or similar elements, but differ on the order of elements and layout.

LaTeX, a document preparation system often used by engineering researchers to automatically format documents that comply with standard formatting needs, is very effective to track and update citations

There are three main functions of citation:

(i) ***Verification function:*** Authors have a scope for finding intentional or unintentional distortion of research or misleading statements. Citation offers the readers a chance to ascertain if the original source is justified or not, and if that assertion is properly described in the present work.

(ii) ***Acknowledgment function***: Researchers primarily receive credit for their work through citations. Citations play crucial role in promotion of individual researchers and their continued employment. Many reputed organizations and institutes provide research funding based on the reputations of the researchers. Citations help all researchers to enhance their reputation and provide detailed background of the research work.

(iii) ***Documentation function:*** Citations are also used to document scientific concepts and historical progress of any particular technology over the years.

There are certain cases when references do not fulfill the actual goal of citations and acknowledgments, and thus do not benefit the reader.

1. ***Spurious citations:*** In certain cases, when citation is not required or an appropriate one is not found, if the author nevertheless goes ahead with including one anyways, it would be considered as a spurious citation. These sorts of citations do not add any value to the reader in terms of properly understanding the paper. Such actions result in loss of time of the reader or reviewer in looking for the cited paper that is otherwise not relevant. Just as due credit should be given to a paper through citation, inappropriate credit must be avoided so that the credibility of a research work or of the journal or conference proceedings where that paper is published is not lost through this sort of carelessness.

2. ***Biased citations:*** When authors cite the work of their friends or colleagues despite there being no significant connection between the two works, or when they do not cite work of genuine significance because they do not wish to give credit in the form of citation to certain individuals, then such actions can be classified as biased citations. Neglect of citations to prior work whose conclusions or data contradict the current work is also biased.

3. ***Self-citations:*** There is nothing wrong in citing one's prior work if the citation is relevant. Self-citation of prior papers is natural because the latest paper is often a part of a larger research project which is ongoing. Sometimes, it is also advantageous for the reader because citations of all the related works of the same author are given in one paper and this may reduce the effort of the reader in trying to find the full versions of those papers. However, it is helpful and ethical only if all the papers are relevant to the present work. There are certain cases when references do not fulfill the actual goal of citations and acknowledgments, and thus do not benefit the reader.

4. Coercive citations: Despite shortcomings, impact factors remain a primary method of quantification of research. One side effect is that it creates an incentive for editors to indulge in coercion to add citations to the editor's journal. Even if not explicitly stated, the implied message is that the author could either add citations or risk rejection. Such demands consequently diminish the reputation of the journal.

Impact of Title and Keywords on Citations

The citation rate of any research paper depends on various factors including significance and availability of the journal, publication types, research area, and importance of the published research work. Other factors like length of the title, type of the title, and selected keywords also impact the citation count.

Title is the most important attribute of any research paper. It is the main indication of the research area or subject and is used by researcher as a source of information during literature survey. Title plays important role in marketing and makes research papers traceable. A good title is informative, represents a paper effectively to readers, and gains their attention. Some titles are informative but do not capture attention of readers, some titles are attractive but not informative or related to the readers' research area

There are three different aspects which provide a particular behavior to the title: (i) types of the title, (ii) length of the title, and (iii) presence of specific markers

Stremersch et al. analyzed title characteristics of the papers published during 1990–2002 in the area of research and studied relationship between title characteristics and citation, which concluded that title length positively affects the number of citations.

Sagi and Yechiam found that highly amusing titles have fewer citations and pleasant titles have no significant relation with citations.

Sebire analyzed different papers' titles and their citations hit for 25 most-cited and 25 least-cited research and review papers of a particular genre of journals and found a strong association between title lengths and citation rates, with highly cited articles having more than twice as many words in the title compared with lower cited papers.

Jamali and Nikzad analyzed several open access papers and found that articles with question-type titles are downloaded more but poorly cited compared to the descriptive or declarative titles. Declarative titles are downloaded and cited less than descriptive titles, but the difference is not much.

Habibzadeh and Yadollahie, longer titles are strongly associated with higher citation rates. Longer titles mainly include the study methodology and/or results in more detail, and so attracts more attention and citations.

In general, titles containing a question mark, colon, and reference to a specific geographical region are associated with lower citation rates, also result-describing titles usually get citations than method-describing titles. Additionally, review articles and original articles usually receive more citations than short communication articles. At least two keywords in the title can increase the chance of finding and reading the article as well as get more citations.

Keywords represent essential information as well as main content of the article, which are relevant to the area of research. Search engines, journal, digital libraries, and indexing services use keywords for categorization of the research topic and to direct the work to the relevant audience. Keywords are important to ensure that readers are aware about research articles and their content [15]. If maximum number of allowable keywords are used, then the chance of the article being found increases and so does the probability of citation count of the article. Usage of new keywords should be minimal as such keywords may not be well known to the research community and so may lead to low visibility of the article.

Knowledge Flow Through Citation

Knowledge flows through verbal communications, books, documents, video, audio, and images, which plays a powerful role in the research community in promoting the formulation of new knowledge. In engineering research, knowledge flow is primarily in the form of books, thesis, articles, patents, and reports. Citing a source is important for transmission of knowledge from previous work to an innovation.

Knowledge flow happens between co-authors during research collaboration, among other researchers through their paper citation network, and between institutions, departments, research fields or topics, and elements of research. The complex interdisciplinary nature of research encourages scholars to cooperate with each other to grab more advantages through collaboration, thereby improving quality of the research. Soorya Moorthy examined the citation impact of the South African publications among different collaboration types, discipline and sectors, and observed that co-authored publications had more citations than single author paper and there was a positive co-relation between number of authors and the number of citations.

Figure below shows the relationship between citations, knowledge flow, and elements such as researchers, papers, journal publications or conferences, and institutions. If paper A is cited by paper B, then knowledge flows through citation networks across institutions.

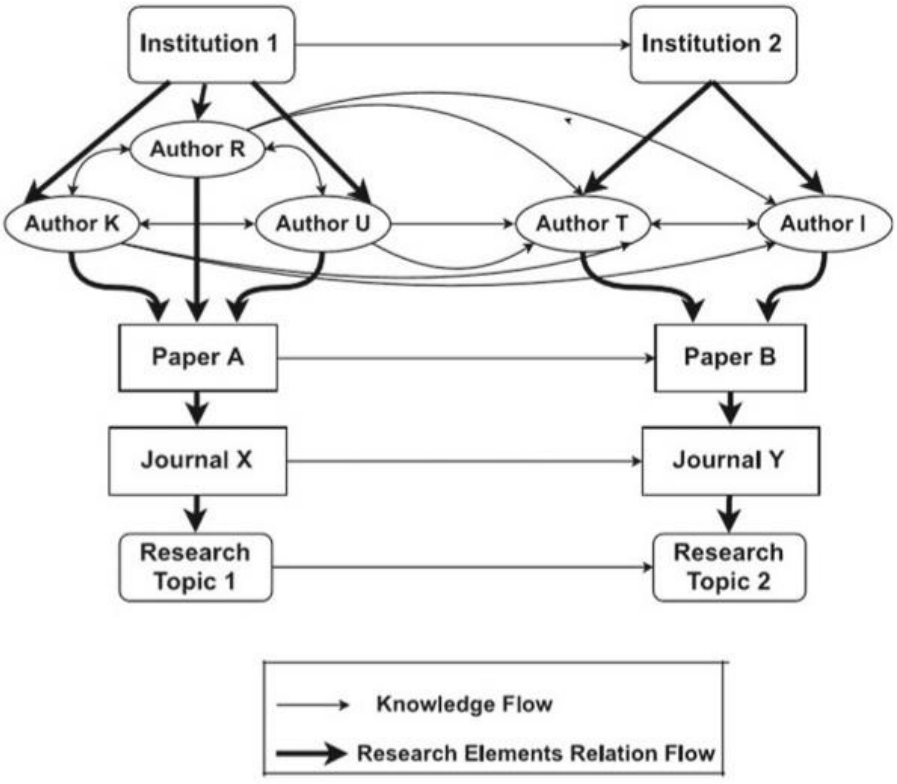
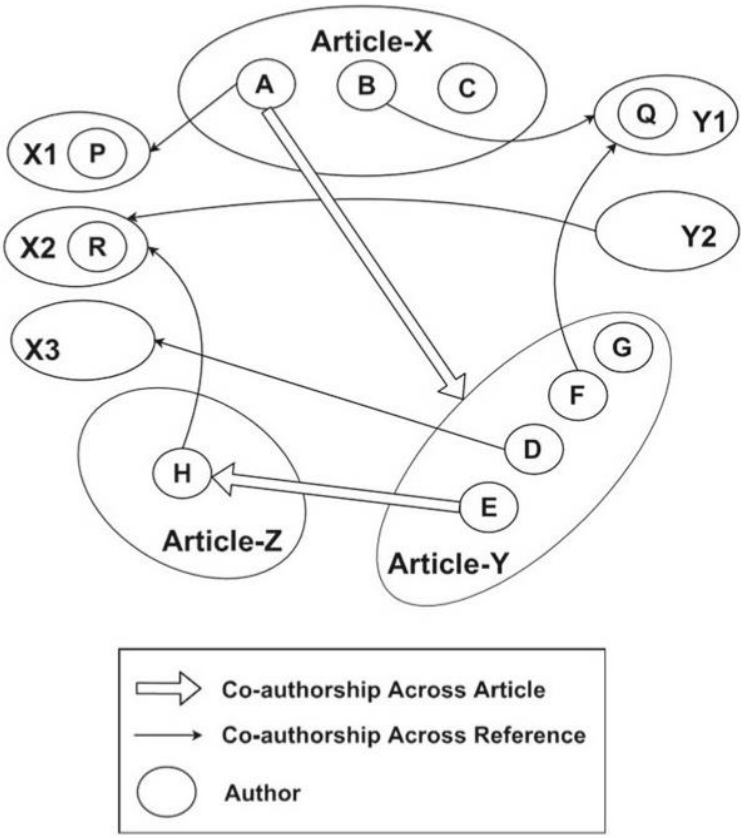


Figure below shows a relationship between co-authorship and different types of citations. Three articles (X, Y, and Z) and five references (X1, X2, X3, Y1, and Y2) of article X and Y, respectively, are considered. A, B, and C are authors of article X, and D, E, F, G, and A are authors of article Y. Article Z has two authors H and E. References X1, X2, X3, Y1, and Y2 have authors (A, P), (H, R), (D), (Q, B, F), and (R), respectively.



Based on co-authorship citation network, references X1 and Y1 are considered self-citation, reference X3 is a level-1 co-author citation because author of article Y is direct collaborator of author A, reference X2 is a level-1 co-author network because author A is collaborator of E who collaborated with H. We conclude that papers which frequently cite collaborators will also often cite collaborators of collaborators. Collaborations certainly impact citation counts.

Citing Datasets

The nature of engineering research has evolved rapidly and now relies heavily on data to justify claims and provide experimental evidences and so data citations must fetch proper credit to the creator of the dataset as citations of other objects like research articles. A researcher should obtain necessary permission for using data from a particular source. Citations related to datasets should include enough information so that a reader could find the same dataset again in the future, even if the link provided no longer works. It is proper to include a mixture of general and specific information to enable a reader to be certain that the search result is the same dataset that was sought.

Examples:

1. Historical Data, Sotavento (Wind Farm), Corunna, Spain (July 2016): [Accessed:4 Oct, 2016] Retrieved from http://www.sotaventogalicia.com/en/real-time-data/historical

2. Deb, D (2016). [Personnel survey]. Unpublished raw data.

Styles for Citations

1. ASCE style (American Society of Civil Engineers):

(a) Reference list: This part is to be placed in the bibliography or references at the end of the article or report. A template with example for the same is given below:

Template for books:

Author Surname, Author Initial. (Year Published). Title. Publisher, City, Pages Used.

Example*:*

Wearstler, K., and Bogart, J. (2004). Modern glamour. Regan Books, NY.

Template for websites:

Author Credentials / Company Name (Year Published). 'Title'. http://WebsiteURL (Oct. 10,

Example:

Blade cleaning services (2015): http://www.bladecleaning.com/problematica (29 Oct, 2016).

Template for journal publications:

Author Surname, Author Initial. (Year Published). 'Title'. Publication Title, Volume number(Issue number), Pages Used.

Example:

Johnston, L. (2014). "How an Inconvenient Truth Expanded The Climate Change Dialogue abd Reignited An Ethical Purpose in The United States". 1–160.

(b) In-text citation for journals or books: The following part is to be placed right after the reference to the source of the citation assignment

Template

(Author Surname/Website URL Year Published)

Examples:

i. Citation is a very important part of technical writing. (Deb 2016)

ii. Engineers create devices to monitor mountains so that nearby inhabitants can be warned of impending eruptions

2. IEEE style (Institute of Electrical and Electronics Engineers):

IEEE style is standard for all IEEE journals and magazines and is frequently used for papers and articles in the fields of electrical engineering and computer science. The IEEE style requires endnotes and that references be cited numerically in the text.

Chapter in an edited book

[1]A.Rezi andM.Allam, "Techniques in array processing by means of transformations," in Control and Dynamic Systems, Vol. 69, Multidimensional Systems, C. T. Leondes, Ed. San Diego: Academic Press, 1995, pp. 133–180.

3.ASME style (The Association of Mechanical Engineers)

Acknowledgments and Attributions

The Acknowledgment section is a place to provide a brief appreciation of the contribution of someone or an organization or funding body to the present work. If no particular guideline is available for the intended publication, then it can be introduced at the end of the text or as a footnote. Acknowledgment is a common practice to recognize persons or agencies for being responsible in some form or other for completion of a publishable research outcome. Acknowledgment displays a relationship among people, agencies, institutions, and research. In some case, certain individuals may help in the research

work but may not deserve to be included as authors. As a sign of gratitude, such contributions should be acknowledged. Classification of acknowledgment into six different categories like moral, financial, editorial, institutional, or technical, and conceptual support.

A researcher should always recognize the proprietary interest of others. Whenever possible, author shall give name of persons who may be responsible, even if nominally, for designs, inventions, writings, or other accomplishments. Given the importance of work published, authorship is also important. The reward triangle theory shows a relationship between citations, acknowledgment, and authorship. In engineering research, acknowledgments are meant for participating technicians, students, funding agency, grant number, institution, or anyone who provide scientific inputs, shared unpublished results, provided equipment, or participated in discussions.

What Should Be Acknowledged?

Every author should know that what should/should not be acknowledged. Author should acknowledge quotation, ideas, facts, paraphrasing, funding organization, oral discussion or support, laboratory, and computer work.

(i) Quotation: In technical writing such as in the field of engineering, quotes are used very rarely. Quotations are of two types:

(a) Direct quotations are used when author use actual words or sentences in the same order as the original one. Author should use quotation marks for the words or sentences with proper acknowledgment.

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Acknowledgments in Books/Dissertations

A page of acknowledgments is usually included at the beginning of a thesis/ dissertation immediately following the table of contents. These acknowledgments are longer than the one or two sentence

statements in journal papers or articles in conference proceedings. These detailed acknowledgments enable the researcher to thank all those who have contributed in completion of the research work. Careful thought needs to be given concerning those whose inputs are to be acknowledged and in what order. Generally, one should express appreciation in a concise manner and avoid emotive language. The following are often acknowledged in these types of acknowledgments: main supervisor, second supervisor, peers in the lab, other academic staff in the department, technical or support staff in the department, colleagues from other departments, other institutions, or organizations, former students, family, and friends.

Sample Acknowledgement in Thesis:
I wish to express my sincere appreciation to my supervisor Prof. Gang Tao for the useful comments, remarks and encouragement throughout this thesis work. Furthermore, I wish to express my thanks to Prof. Jacob Hammer for introducing me to the topic and for the support along the way. Also, I like to thank my peers in the Adaptive Control Lab such as Yu Liu and Shanshan Li, who have shared their precious time during many lively technical discussions. I would like to thank my family members who have supported me throughout this journey in many ways.

Dedication or Acknowledgments?

Dedication is almost never used in a journal paper, an article in a conference proceeding or a patent, and it is used exclusively in larger documents like books, thesis, or dissertations. While acknowledgments are reserved for those who helped out with the book in some way or another (editing, moral support, etc), a dedication is to whomever the author would like it to be dedicated to, whether it is the author's mother, the best friend, the pet dog, or Almighty God. And yes, it is possible to dedicate something to someone while also mentioning them in the acknowledgments.

For example, one may dedicate a book to one's spouse, but acknowledge them for being the moral support and putting up with when one got very stressed. The acknowledgments in technical books can be sometimes as brief as the ones in journal articles. The acknowledgment section of a technical report may be a paragraph that is longer than a journal paper but shorter than dissertations. Generally, the length of the acknowledgment may have some correlation with the length of the document.