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## A Study of Mind Mapping in Education and Teaching through the Technology

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**ABSTRACT:** If your daily work involves a substantial amount of writing or research, you know the frustration that sometimes comes from trying to manage information for multiple projects. It doesn't matter whether you're writing business plans, company reports, and article for clients, or doing academic research. Coming up with an effective way to manage multiple document files and research notes can make a difference in your work productivity. The mind maps show that although decisions made in one area of research methods may affect decisions made in another, there is no pre-determined connection between each area and the research design chosen. The mind maps can be used to as a guide to teach, supervise, and chart a way though the concepts of research methods and may help to produce more robust research. This study deals with the organizing ideas and concepts into graphic patterns has been explored for years by cognitive educators. Mind Mapping builds a process structure or "map" over the content body of the material a person has gathered, thereby organizing it for development.

**KEYWORDS:** Mind Map, Developments, Research method and writing of plans, Brain storm.

### I.INTRODUCTION

Mind mapping is a visual form of note taking that offers an overview of a topic and its complex information, allowing students to comprehend, create new ideas and build connections. Through the use of colors, images and words, mind mapping encourages students to begin with a central idea and expand outward to more in-depth sub-topics. The mind maps represent the authors' concept of research methods at this time. The major aspects, rather than a complete picture, of research methods are illustrated in seven distinct areas: research problem, research design, sampling techniques, ethical matters, data collection, data analysis, and report findings. Brief descriptions explain the mind maps and why items were placed in certain areas where as traditionally they may have been placed elsewhere. The mind maps show that although decisions made in one area of research methods may affect decisions made in another, there is no pre-determined connection between each area and the research design chosen. The mind maps can be used to as a guide to teach, supervise, and chart a way though the concepts of research methods and may help to produce more robust research. Mind mapping is a simple technique for drawing information in diagrams, instead of writing it in sentences. The diagrams always take the same basic format of a tree, with a single starting point in the middle that branches out, and divides again and again. The tree is made up of words or short sentences connected by lines. The lines that connect the words are part of the meaning.

**Mind mapping** -If your daily work involves a substantial amount of writing or research, you know the frustration that sometimes comes from trying to manage information for multiple projects. It doesn't matter whether you're writing business plans, company reports, articles for clients, or doing academic research. Coming up with an effective way to manage multiple document files and research notes can make a difference in your work productivity. One of the most ideal ways to manage research notes and multiple forms of writing is mind mapping. A digital mind map is like a blank canvas that gives you multiple benefits. A Mind Map is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It harnesses the full range of cortical skills – word, image, number, logic, rhythm, colour and spatial awareness – in a single, uniquely powerful manner. In so doing, it gives you the freedom to roam the infinite expanses of your brain. The Mind Map can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance.

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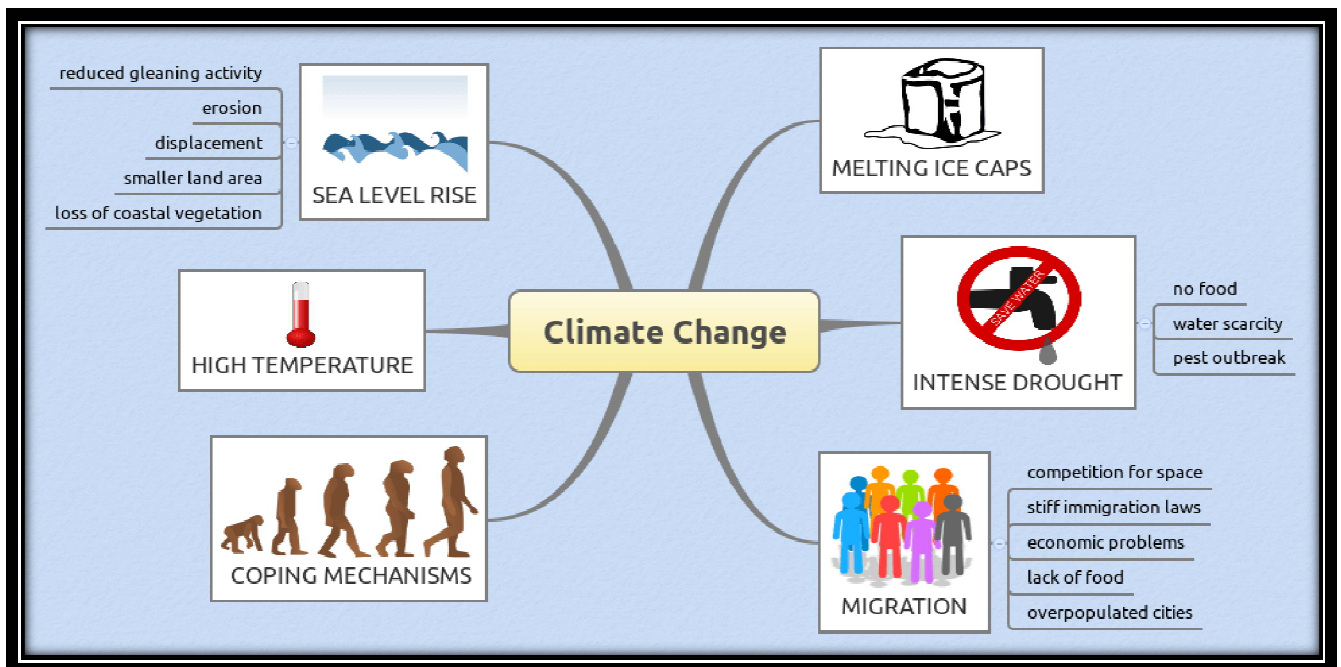
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## A. DEFINITION OF A MIND MAP

A mind map is a visual representation of hierarchical information that includes a central idea surrounded by connected branches of associated topics.

## B. EXAMPLE MIND MAP ON CLIMATE CHANGE

Applying these tips, I prepared a mind map on climate change as the main theme. Many variables come into play and get incorporated in the mind map as I let my mind wander. I tried to be sensitive on what subtopics my mind suggests to incorporate. Using the tips above, here's an example of a mind map that I have produced in a matter of 30 minutes using a free version of XMind, a mind-mapping software.



## C. STEPS TO MAKE A MIND MAP

1. In the PowerPoint software, click on menu bar and select a new slide.
2. Press the layout option available in home tab of menu bar, select a blank layout and implement it within the new slide.
3. Click on view and enable drawing toolbar, or you can directly choose a shape present under insert menu. Users can even create their own shapes as well as customize them.
4. In order to customize a given shape, user needs to double click onto the shape that has been created, select shape fill option following which, you can easily add a desired color, picture or even texture into your creation. Similarly, with the help of shape outline option, presenter can insert any color of his/her choice to the shape. Further, special effects can be added to these shapes by selecting shape effect option from menu bar.
5. Once the shape has been modified, right click on it, select edit text option that has popped up on your screen after right clicking the image. A cursor will show up in the middle of the shape wherein you can type the name as well as the central idea into it which is to be depicted by **Mind Map tool**.
6. After adding all the text, one needs to pick line from shapes option present in insert menu bar and extend it to join various pre-created shapes in a desired order. This procedure can be simplified by opting text option present in insert pane and then click onto the shape following which you can add text to the shapes.

Finally, you end up with a clear and concise **mind map** presenting main idea in the center and branch all the sub ideas joined together with the help of different lines capable of providing a brief overview containing the main idea of your



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presentation. Remember, mind maps are very effective as they help in grabbing audience attention and also provide them with the key idea depicting the purpose of your presentation.

## II. HOW TO USE MIND MAPPING FOR RESEARCH AND WRITING

### Storing Research Data

When you use a mind map to store information, notes, hyperlinks, images, spreadsheets or whatever else, you have a lot of leeway in how you store your data. The simplest way is to either type, copy/ paste, or drag and drop your information into a sequence of mind map nodes. When you start to see hierarchies, you can rearrange the map nodes however you want.

### Writing

When it comes to writing documents using mind mapping, you have a number of options:

1. **Brainstorm.** You can brainstorm semi-randomly, recording what you already know, building a list of related topics, and cataloging (research, links) what other people have written about similar topics, as well as relevant images. Then start asking questions. If you're writing articles, you might ask yourself what others have not said. What can you add to the collective conversation about that topic? Continue to collect notes, links, and whatever information you need to form your article. On the other hand, if you're writing business or academic documents, it's likely that you need to follow some document structure.
2. **Structured writing.** Start by listing off the sections your document needs, depending on the structure you need to follow. This gives you a basic outline and is actually a powerful way to help you visualize completing complex writing projects. For example, you might have the following sections in your mind map:
  1. Purpose
  2. Assumptions
  2. Tools
  3. Processes
  3. Notes
  4. Intro
  4. Body
  5. Summary
  6. References

Now flesh out the sections in layers, adding details as you go, including point form notes, examples, theory, interpretation, or whatever you need for the type of document you're writing.

### Cautions

**Don't over think.** It's possible to over plan when using a mind map. Take notes in the form of your map, then start writing. Either use your mind map's native text editor/ word processor, or a third party application.

**Don't obsess about the writing.** Do your best to edit, check typos and grammar after you have a rough draft.

**Let it flow.** When you use a mind map to record research notes or to write an article or document, you give yourself an unstructured canvas that can be intimidating. If you get stuck, try collapsing portions of your mind map to look at the big picture (high-level view), not the details. Maybe the flow of your document or article's sections is not quite right, but you will not notice if you're only looking at the details. Let your mind map nodes flow and develop naturally. You can always alter hierarchy after you've noted everything you feel is necessary. Your final document does not need to include everything that you have in your mind map. The map is only a guideline towards your completed writing.

### Five Tips on How to Make a Mind Map for Research Purposes

How do you keep the ideas flowing and enrich your mind map to show everything that comes to mind? The following are five tips on how to make a mind map for research purposes.

#### 1. Don't evaluate too much.

As you prepare the mind map, you will have the tendency to stop and evaluate if you did connect the right factors or variables that come to mind.

#### Why is this so?

This is because you are still unconsciously bound by rules or standards set to conform with the norm. You want to conform to what you have learned or what other people have set before you. You need not be concerned about these rules or standards but allow your mind to flow smoothly or wander. Just let it go where it can comfortably go. Starting with the central idea, connect any subtopic that comes to mind. Don't ask yourself whether that subtopic or idea is appropriate to connect with the central idea or not. Just quickly write it and connect with the central idea.



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## 2. Give a time limit for each subtopic listed down in your mind map.

Allow only a few seconds to ponder on a specific subtopic you have written. Don't let a minute pass on a single topic so you can populate your mind map with more ideas.

## 3. Be creative.

Preparing a mind map is an opportunity to be creative. You need not only words to express what comes to your mind. If you want to draw a symbol, scribble a note, place a quotation or anything that reminds you of a particular topic, do it. Graphical entries make your mind map more interesting.

## 4. Avoid analysis paralysis.

Oftentimes, we have the tendency to overanalyze things or plan too much. This is referred to as analysis paralysis. It's a hindrance to a productive endeavor. Don't be a perfectionist in making your mind map. Briefly analyze how the variables or factors relate with each other and then go ahead with the other components as swiftly as you can. Through constant practice, this will help you process information quickly.

**5. Read a lot.** Your mind map is only as good as your exposure on a given topic. Therefore, it pays to educate yourself on the specific topic you want to write about or do research on.

### Benefits of Using Mind Maps for Research and Writing

1. You can see high- and low-level views of document details.
2. Easily organize and reorganize the information hierarchy in whatever way is optimum for a given document.
3. If you work as part of a remote team, you have the choice between web-based mind mapping applications or new shared workspace features that complement desktop mind mapping tools.
4. Most digital mind maps, regardless of the originating application, integrate well with files on your desktop and the default applications tied to their file types. You can associate each node of a mind map to a document file. Double-clicking your mouse on a linked node activates the desktop application associated with that file type.

To summarize the benefits, a mind map gives you powerful control over multiple document from a single place. E.g., a master map, which will give you a high level view of all your research and writing projects and files. You can then link a map node to either a document file or even to another mind map that contains even more details about that project. If you link nodes to document files, you can then quickly open those files in the associated text editor, word processor or web browser. Ditto for image file links. (Note that some high end mind mapping tools have native editors, word processors, spreadsheets and browsers embedded in the interface.)

## III. OTHER BENEFITS OF MIND MAPS

- Help students brainstorm and explore any idea, concept, or problem
- Facilitate better understanding of relationships and connections between ideas and concepts
- Make it easy to communicate new ideas and thought processes
- Allow students to easily recall information
- Help students take notes and plan tasks
- Make it easy to organize ideas and concepts

### How to Mind Map

- All mind maps begin with a main concept or idea that the rest of the map revolves around, so choosing that idea or topic is the first step. Begin by creating an image or writing a word that represents that first main idea. From that main idea, create branches (as many as needed), that each represent a single word that relates to the main topic. It's helpful to use different colors and images to differentiate the branches and sub-topics.
- Then, create sub-branches that stem from the main branches to further expand on ideas and concepts. These sub-branches will also contain words that elaborate on the topic of the branch it stems from. This helps develop and elaborate on the overall theme of the mind map. Including images and sketches can also be helpful in brainstorming and creating the sub-branch topics.



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## Mind Maps in Education and Teaching

- Mind mapping is a beneficial learning tool to help students brainstorm any topic and think creatively. Mind maps are particularly helpful in the writing process and provide students with a natural way of thinking and building thoughts on a story plot or theme.
- Mind maps also provide teachers with insight into their students' thought process regarding a specific topic. By asking students to create mind maps demonstrating their comprehension of a concept, teachers are able to understand what a student's prior knowledge was and how well the student understands the assignment or the material being taught. This is a very effective way of evaluating students' understanding.

## What is a Mind Map?

The word "Mind Map" and has written extensively on it, describes it as a powerful graphic technique that makes use of the way our brains naturally work. He says it has four characteristics.

1. The main subject is crystallized in a central image
2. The main themes radiate from the central image as branches
3. Branches comprise a key image or key word printed on an associated line.
4. The branches form a connected nodal structure

## How Does a Mind Map Help?

The brain is an associative network, and the right hemisphere (in most people) is responsible for non-verbal, visual, associative and much creative thinking. Normally when writing, we are mostly making use of our left hemisphere, which tends towards the analytical, one-thought-at-a-time approach. Our internal thoughts, however, are not shaped like that. Thus we have a roadblock as we try to get our brilliant thoughts on paper.

By using a Mind Map as a starting point for thinking, you can bypass the blockage and feeling of overwhelm caused by overly analytical thinking. The Mind Map allows you to see more than one thought at a glance, and in doing so helps clarify your thinking. It shows the way ideas are interrelated (or less related than you thought.) It allows more access to creative, non-linear parts of your brain.

## How Can Grad Students and Professors Use Mind Maps?

How does I keep all my creative thoughts straight? Well, here's the secret. Now that you know how I prepared this article, you'll realize it's not my high IQ but my Mind Mapping skills that got me where I am today. Having seen my Mind Map, you know what I'm about to say, but here goes. Here are some helpful ways to make use of Mind Mapping.

1. Use it for brainstorming ideas for your proposal or new research project.
2. Make a Mind Map of your next chapter or the one you're currently stuck on.
3. When planning your career, make a Mind Map to show the pros and cons of your available options.
4. Use a Mind Map to take notes.
5. Mind Mapping can help keep you awake and interested in your subject.
6. Prepare for an upcoming meeting with a Mind Map.
7. Use it in teaching, both to prepare classes and for handouts.

## IV. MIND MAPPING IN EDUCATION

Educators and students have been drawing concept maps and mind maps on paper for many years. Visual software applications, in particular mind mapping tools, have automated this process, making it more efficient to brainstorm concepts as ideas or branches. This allows for the creation of much larger mind maps, and the ability to easily re-organized branches by dragging and dropping them around the map. Furthermore, some mind mapping software applications integrate with MS Office, allowing students to convert their ideas into other documents such as Word or PowerPoint. In education, mind mapping is often used for:

- Brainstorming sessions, Visualizing concepts
- Improving critical thinking, Decision making
- Improving reading and writing skills
- Advanced research papers
- Outlining written documents



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- Storyboarding presentations
- Project management
- Benefit students achievement levels
- Enhance thinking and learning skills
- Increase retention

## V.CONCLUSION

It is a known fact that working with mind maps helps students organize their ideas and understand concepts better. Since an outline is sequential, it can be difficult to work with, especially for students that struggle with the process. Mind mapping is a freer, non-sequential way to organize material, making the process more coherent; in particular for students that may not be process oriented, but visually oriented. Mind mapping is also recognized as an assistive tool where for instance will benefitted. Use it for brainstorming ideas for your proposal or new research project. Make a Mind Map of your next chapter or the one you're currently stuck on. When planning your career, make a Mind Map to show the pros and cons of your available options. A mind map gives you powerful control over multiple documents from a single place. With the help of this study we increase the retention, enhance thinking of students, researchers and as well as Professors.

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## BIOGRAPHY



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