Critical Thinking and Its Importance

Professors in the classrooms in the Schools/Universities keep advising their students to develop **Critical Thinking skills**. Critical Thinking skills help students and graduates to achieve higher levels in their study and profession and able to effectively handle leadership roles. Though, a large amount of scholarly literature is available on the worldwide web on the topic of critical skills; I thought, I should create an awareness amongst our students on the importance of this topic; hence, I thought of dealing over here.

Basically, I have tried to compile the relevant material from various sources that is useful for students to read and realise the importance of developing critical skills and take to practice. I have indicated the references for detailed reading.

Thoughts are the result or product of spontaneous act of thinking. Thoughts are the keys which determine one's goal. *(en.wikipedia.org/wiki/Thinking). Concepts akin to thought are sentience, consciousness, idea, and imagination.* Thought is a fundamental human activity familiar to everyone and it *is the result of thinking.* Thinking is an internal mental process that uses information as input, integrates that information into previously learned material and the result may be knowledge or may be nothing. Problem solving, planning, information integration, and analysis are four kinds of thinking. *(home.earthlink.net/~ddstuhlman/defin1.htm)*

Thinking is a Vital Skill, knowing how to think in any given situation and which type of thinking to employ is very important to every individual-thinking skills. The key types of thinking skills are: **Creative thinking, Lateral thinking, Critical thinking, Logical thinking, Parallel thinking, structured thinking, Positive thinking**, **Strategic thinking, Divergent thinking, Convergent thinking**, **Associative thinking** and **Radiant thinking** (http://www.illumine.co.uk/how-to-think.html).

Of these, **Critical thinking**- a term that is used to denote thorough or exhaustive thinking and is primarily used in the field of education. Within the framework of scientific scepticism, the process of critical thinking involves the careful acquisition and interpretation of information and use of it to reach a well-justified conclusion. The concepts and principles of critical thinking can be applied to any context or case but only by reflecting upon the nature of that application. Critical thinking forms, therefore, a system of related, and overlapping, modes of thought such as anthropological thinking, sociological thinking, historical thinking, political thinking, psychological thinking, philosophical thinking, mathematical thinking, chemical thinking, biological thinking, ecological thinking, legal thinking, ethical thinking, musical thinking, thinking like a painter, sculptor, engineer, business person, etc. In other words, though critical thinking principles are universal, their application to disciplines requires a process of reflective contextualization. In educational context, one need to follow the following procedure to develop critical thinking abilities:

- Recognize problems, to find workable means for meeting those problems
- Understand the importance of prioritization and order of precedence in problem solving
- Gather and marshal pertinent (relevant) information
- Recognize unstated assumptions and values

- Comprehend and use language with accuracy, clarity, and discernment
- Interpret data, to appraise evidence and evaluate arguments
- Recognize the existence (or non-existence) of logical relationships between propositions
- Draw warranted conclusions and generalizations
- Put to test the conclusions and generalizations at which one arrives
- Reconstruct one's patterns of beliefs on the basis of wider experience
- Render accurate judgments about specific things and qualities in everyday life

In short: "A persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports or refutes it and the further conclusions to which it tends."

Developing critical thinking benefits the individuals a lot. Instructors that promote critical thinking skills can benefit the students by increasing their confidence and creating a repeatable thought process to question and confidently approach a solution. The critical thinking skills taught in schools/Universities help create students into leaders and professionals that are self-governing.

Critical thinking is all about structured thinking to make sound opinions. Critical Thinking helps you develop your own opinions.

On a lighter vein, let me try to give an idea about '**critical thinking'** by using an example. Let us assume that there is a young south Indian boy in his mid-twenties and he has a crush for a girl. Assume the boy would have seen a girl accidently in his neighbourhood, in a cinema, or in a mall or in a social gathering and developed a crush for her as she has good looks, right height, size, colour, attractive smile, walks stylishly and dresses well and she is of right age. Now, he starts imagining, whether he can develop friendship with her and even think of tying of a knot with her in long-term. Suppose, this boy wants to apply critical thinking principles for this case, let us imagine how he may go forward.

Stage-1: Exploring her name, address, School, course of study, friends, movements, habits, interests, professional interests

Satage-2: Exploring her parents, siblings, kith and kin, family educational levels, professional practices, financial status, social status, emotional bonding, family networks

Stage-3: Exploring her religion, sub religion, caste, sub caste, social implications

Stage-4: Introspection to know there are matching points on his family side too

He may use the results of all his research to make an opinion, whether he should consider her asking to be a life partner.

Here, the boy is trying to make develop a structured thinking to make a decision, which may not be the case at all in real life.

I suggest you to read the pdf article - (Critical thinking –pdf) and study the following example to get clarity on critical thinking.

Example on Critical Writing

www.cumbria.ac.uk/Public/LISS/.../**CriticalWritingExamples**.doc

The piece of writing below is taken from an essay on leadership:

Brown (2005) maintains that leadership is an essential quality in nursing. This is confirmed by the recent requirements of the NHS Plan (DOH, 2002). This Plan has emphasized the importance of introducing the transformational model of leadership. Smith (2001) explains that this is a leadership which involves the use of charisma and interpersonal skills to enable achievement. Jones (2004) argues that the key characteristic of transformational leadership is empowering others to achieve. In my own experience, a leader with transformational qualities can make any team member feel that they have a useful part to play in the organization. This is confirmed by Fea (2001) who argues that transformational leadership increases feelings of self-worth and capability in their team members.

1. **Is this piece an example of good academic writing?**
    - Yes, the style is formal and flows well.
    - Paraphrasing (rather than quotations) is used to introduce evidence from the literature
2. **How well does it use literature to back up statements being made?**
    - Literature is used to make a number of points. An attempt is made to find answers in the literature.
    - However, each citation is not really explored or interpreted by the student
3. **To what extent is it reflective?**
    - There is some reflection on the part of the student and answers from the literature are used to confirm these feelings.
    - The student does not go far enough in trying to explain/justify these feelings.

4. **To what extent is it analytical and critical?**
    - There is an attempt to analyse the topic but this is not done in great depth.
    - The student does not question/evaluate the evidence from the literature and therefore shows limited critical thinking.

Now read the following extract:

A review of the available literature provides a wealth of examples of authors advocating leadership as an essential quality in nursing. For example, Shackleton (1950) emphasises that nursing needs strong leadership and recommends a strong transactional approach of reward and punishment to get results and promote teamwork. However, more recently, authors have moved towards the concept of charismatic and transformational leadership (Smith, 2001; Jones, 2004). These qualities are also an integral part of the new recommendations in the NHS Plan (DOH 2002).

Charisma appears to be a complex phenomenon to define. Davidzhar (1991) suggests that it is an aspect of personality which makes the individual irresistible to others, in terms of their ability to persuade and empower others. However, other authors, such as Romano (1996) and Harvey (2000) highlight the intangible nature of charisma and emphasise the frustrating point that individuals know charisma if they see it, but find it difficult to define.

It appears problematic, therefore, to identify exactly how charisma can become an integral part of developing transformational leadership in nursing, if it is a quality which, in itself, is difficult to define. For example, Smith (2001) maintains that transformational leadership uses a combination of charisma and interpersonal skills to enable achievement. However, identifying potential transformational leaders may be a difficulty if the pre-requisite for identifying charismatic individuals is an integral part of this selection process.

Jones (2004) argues that the key ability of a transformational leader is the ability to empower others, while Fea (2001) maintains that their key strength is to increase feelings of self-worth and capability in their team members. On reflection, my own experience of transformational leadership appeared to be based principally on being persuaded, by the sheer force of personality of the individual, that I had the potential to contribute and achieve. It seemed to me that it was their apparent faith in me and their power of persuasion that enabled me to become an effective team member.

This requirement for charisma in transformational leadership, therefore, may indeed be based on individual personality factors that enable others to feel good about themselves and their achievements. There is some evidence that this is the case. Jones (2003), for example, argues that transformational leaders are born and cannot be made. Regisara (2003) also maintains common key personality traits can be identified in effective transformational leaders, which have probably been present since childhood. It seems, therefore, that the key requirement of the NHS Plan (2002) for the training of transformational leaders is not as straightforward as they first envisioned, as the available literature suggests that these leaders are born, rather than made.

How different is this piece of writing?

- The issue is explored in considerably more depth
- The student constantly tries to find answers in the literature, particularly finding different definitions and interpretations of the key issue.
- Once the literature is presented, the student puts their own “spin” (interpretation) on it
- Personal thoughts and reflections are always followed up by attempts to find supporting evidence (substantiation) in the literature
- The complexity of the issue is recognised. Things are not presented simplistically as “black and white”. Instead, shades of grey are acknowledged.
- The student’s “voice” is heard throughout, trying to make sense of what they have read and comparing it with what they have experienced.

In all these exercise, one should be extremely careful regarding citations and referencing.

At, M.S. Ramaiah University of Applied Sciences greater emphasis is being given to development of Critical Thinking among its students particularly during their module assignment preparations and project work. Students are trained on importance of literature review, collection of relevant literature, critically review the literature to draw conclusions and identify gaps for further study in a

given subject area. The rigour of treatment at the University ramps up as the student progresses from undergraduate to doctoral programme.

Think critical, be critical but be progressive!

Prof. S.R. Shankapal

Critical Thinking

Typical Comments

‘I’m not sure what they expect when they ask us to ‘critically evaluate’

‘The word ‘critical’ sounds so negative, as though you have to undermine everything’

‘The word ‘analysis’ always sounds like something difficult and technical’

‘I really don’t feel sure what these terms mean’

‘How can I be ‘critical’ of something when I don’t know much about it?’

Aims of the leaflet

- Show how you are already a ‘critical thinker’
- Clarify key terms
- Outline a critical approach to lectures, essays and reading
- Look in more detail at critical reading of academic texts

Critical Thinking – an everyday activity

We tend to receive knowledge passively at many stages of education, although we can be highly critical in other aspects of life. Critical thinking and analysis is an everyday activity, even if we don't think of it as that. Every time you have to make a decision, the process you go through involves critical thinking, and this process can become almost automatic.

A useful example of a situation where you think critically is buying a second-hand car. Hardly anyone would buy a car on 'face value'. Instead, regardless of your knowledge of cars, you would go through a rough process of '**critical analysis'**. This might involve looking at things like the tyres, brakes, paintwork, lights…. and for each of these you would have **'criteria'**, a rough idea of what constitutes good brakes, good lights and so on.

After thinking critically about each element, you might ask for extra **evidence** (record of services, MOT). You can then do your own initial **evaluation** by weighing up the good and bad points, and decide whether or not the car meets your needs and is a good buy. If necessary, you can call in expert opinion to give further **detailed analysis** on aspects you are not sure about, and you can then make your final evaluation and decision. With experience, you get a better idea of what to look for and what questions to ask.

With most second-hand purchases, we would have a general idea of what to look for because we know what the item should do, and what we want to use it for. This gives us a rough set of criteria for a critical analysis and evaluation.

With **critical analysis and evaluation** in academic study, the key is to start developing ideas about what makes up a 'good' or 'sound' **argument** in a piece of reading, or our own writing, and what **criteria** we need to apply to test this.

Key Terms

Critical thinking

Critical thinking is a general term that covers all thinking processes that strive to get below the surface of something: questioning, probing, analysing, testing and exploring. It is not a negative term as such, although it can sound it. Critical thinking requires detective-like skills of persistence to examine and re-examine an argument, in order to take in all the angles and weigh up evidence on every side.
To think critically is never to take something on 'face value' but to question and think independently about an issue, however 'authoritative' a writer or thinker may be.

Analysis

Analytical thinking involves particular processes, in particular breaking down the 'parts' and looking at them more closely. (Think back to the second-hand car)
It involves:

- Standing back from the information given and examining it carefully from different angles
- Checking the accuracy of statements
- Checking the logic – whether points follow each other logically
- Spotting flaws or 'jumps' in the reasoning
- Identifying 'gaps' – arguments or information that might be relevant but has been left out
- Checking for persuasive techniques, which encourage you to agree

Evaluation

To evaluate, or 'critically' evaluate is to reach a conclusion, through a process of critical thinking, about the value, or 'soundness' of an academic argument. Critical analysis is a key activity in evaluation. Evaluation is about weighing up the strengths and weaknesses of an argument in order to decide how much it contributes to a particular body of knowledge in your subject.

Developing a critical approach: First steps

You don't need to have detailed knowledge of your subject to think critically. The guide below gives some initial critical questions to start asking in different study contexts. It can help to start with very basic critical questions, which become more detailed and in depth as your knowledge and confidence increase.

Lectures

- Is this clear? Am I understanding this? If not, why not?
- What is the overall theme and idea here? Any aspects I don't understand? Why? Terminology/language?
- How might I use this? What notes are available?
- Any idea I want to follow up later? Find related reading?

Reading

For detail, see 'Active Reading' leaflet.

- What do I want to read? How would I select?
- What type of reading is this? Is it difficult? Why?
- What is generally being said? Clear points? Worth reading?
- How does it compare to similar texts? How might use it?
- Are the ideas backed up with evidence? Convincing?
- Are there similar views to support this idea? Alternatives?
- Is anything not covered here that I expected? Why not?

Academic essays and assignments

You need to develop 'critical depth' in your academic writing over time by practising critical questioning of your own and other work.

- Examine theories and evidence from authors you use– don't just state ideas, but examine strengths and weaknesses
- Question evidence – what's missing? Any gaps?
- Explore other options for, say, a treatment, rather than accepting the first one you find – and look at evidence
- Show the implications of an idea, don't just state it
- Think about different angles – read to find these

The detailed critical reading approach outlined next will help in all stages of researching and writing an academic assignment.

Critical analysis of academic writing

An effective piece of academic writing will have:

- A clear and logical line of reasoning, a
- A lack of prejudice or bias in examples, evidence and points
- Relevant and recent data,
- Enough appropriate and reliable evidence
- Conclusions that are supported by the argument and evidence overall

This gives you an idea of criteria to use when you are asked to critically evaluate or analyse academic writing. The stages below are a general guide to this process.

Remember!
This is only one detailed way of reading a text.
For more ideas for developing effective reading skills, see leaflet:
Active Reading

There are several stages involved in critical reading:

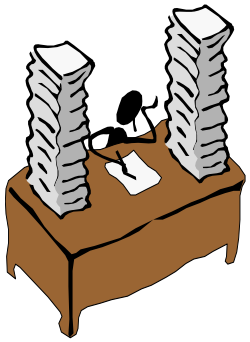
1. **Identifying the author's line of reasoning**
2. **Critically evaluating the line of reasoning**
3. **Identifying evidence in the text**
4. **Evaluating the evidence**
5. **Questioning surface appearances and assumptions**
6. **Identifying the writer's conclusions**
7. **Deciding whether the evidence supports the conclusions**

1. **Identify the line of reasoning**

Most academic writing you will read as a student will contain an argument. In academic writing, an argument is:

- A line of reasoning
- An angle or point of view
- A position that is being defended
- A case that is being made, backed up by evidence and examples, and leading to conclusions

When reading, you need to keep asking 'what are the main things this writer wants me to accept? What are the main reasons given for me to accept this?'



2. **Critically evaluate the line of reasoning**

Check whether the argument contains:

- Points and reasons in favour of the argument that are relevant, and contribute to it
- Points that follow each other logically
- False premises: a starting point that is not proven or backed up with evidence
- Flawed reasoning: false connections between points

3. **Identify evidence in the text**

This is usually straightforward. Evidence can be in the form of:

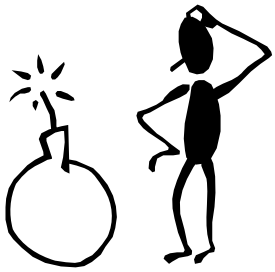
- Statistics, examples, case histories
- Findings from experiments or surveys, questionnaires or case studies
- Anecdote – personal stories and experiences

4. **Evaluate the evidence**

Some evidence is strong, but a lot can be weak when examined.

Be careful to:

- Check the date of any research (recent? Old so less useful?)
- Check the sources of information – do they seem reliable?
- Check possible bias in the sources, organisation agendas
- Check that statistics are convincing – percentages can be used to make inadequate data look impressive
- Beware of words that sound like statistics
- e.g. ‘Most people are concerned about child safety’ – ‘most’ is a very vague amount and not evidence of anything
- Look out for emotive language and ‘persuader’ words which try to convince you of something e.g. ‘Obviously..’, ‘We can see that..’ ‘Surely..’



5. Question surface appearances

As you study and re-read a piece of writing, keep trying to look ‘below the surface’, and question the agenda of the writer.

- Is the evidence all it appears to be? Is it relevant?
- What is the purpose of the writing? To persuade? Inform? Entertain? How can you tell?
- Is all necessary information given? Do there seem to be ‘gaps’?
- Does the evidence come from a neutral source, or is it biased?

6. Identify the writer's conclusions

- Conclusions are usually at the end, but can be stated at the beginning, or even in the middle, which makes them harder to spot
- Conclusions are usually indicated by 'trigger' words – 'therefore, so, hence, thus, it is clear that…'
- Or by imperatives – words indicating that something has to be done – 'must, should, need to…'

7. Evaluate whether the evidence supports the conclusions

- Do the conclusions follow on logically from the evidence and reasoning given?
- Does the conclusion make too big a 'jump' away from the evidence?
- Do the conclusions use false reasoning, or twist the evidence to suit a general premise?

Critical thinking questions – quick summary

- What is the main point/argument?
- Is it convincing?
- What evidence is given? Is it strong/weak? Why?
- What's the conclusion?
- Does it follow on from the rest?
- What's the aim? Purpose? Agenda?
- Any gaps/information you think should be given?

Developing the skills

- Bear in mind you do not have to have a lot of subject knowledge before you think critically. Even without a developed knowledge of a subject, you can still start to detect a line of argument, a conclusion, and whether or not evidence is in place to support these.

- Talking about a lecture, essay title or piece of reading with other students is a useful way to develop critical analytical skills – some students develop informal study groups to practise reading journal articles critically and find their skill and confidence progresses fast through group discussion.

- Try thinking more critically when you watch a TV documentary or film, or read a newspaper article:
  Not just: 'What do I think of this? Is it good? Not?'
  But also: 'What makes it good? How was it put together? What were the strengths? Weaknesses?
  And: 'What was not included? What might have been useful? Why was it excluded? What were the assumptions made?'
  Try to think from different angles, so that you get a more objective view and don't cling to your first impressions.

Using critical thinking to develop your own writing

- Be clear about your argument or standpoint
- Be clear about your conclusions
- Have a clear line of reasoning
- Use evidence to support your reasoning
- 'Critically' read and reflect on your own writing

Finally…….critical thinking

- is about asking questions, getting under the surface, finding out what's really going on, testing things out
- is a key skill in academic study
- helps make you a deep, rather than a 'surface' thinker - able to think and argue independently, explore issues in depth, make connections between ideas, relate them to real life
- improves memory, as you engage more closely with ideas
- helps you develop your own opinions