

Unit Four:

Critical   
Thinking

YGPS (Your Global Positioning System), Workshop Series 2010

Unit 4: Critical Thinking

# 1. Introduction

“Intelligence is like the horsepower of a car. It is only potential. Thinking skill is   
like driving skill. We have to learn how to drive and we have to learn how to think   
constructively. There are powerful cars that are driven badly and highly intelligent   
minds that are used ineffectively.”

*- (De Bono, 1992)*

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| YGPS_activity icon.jpg | Learning Activity 4.1:  Is your mind being deceived? |

Take a very quick look at the picture below. In the space below the picture write down what you see.



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Do the same with the next picture. Remember to only look at the picture quickly. Once again write down what you see in the space below.

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Now, choose a partner. Share with your partner what each of you saw in the pictures above. Did you both see the same thing? Or did your partner see something different?

Sometimes, our minds can deceive us, we think we can be certain of the things we observe, when in fact things are not always as they appear at first glance.

Take a look at the first picture again, now you should take your time and examine it carefully. The picture can be either a vase (the white area) or two faces (the black areas). Can you see it? Now examine picture number 2 carefully. There are also 2 different images; can you identify both of them? Work with your partner to see if you can figure it out. Picture number 2 can be either the face of a young woman or a saxophone player.

These types of pictures are called optical illusions, meaning literally that they deceive one’s eyes. If you enjoyed this exercise and would like to see more optical illusions you can visit the following website: <http://www.indianchild.com/3d%20mainpage.htm>

The exercise you have just completed illustrates to you how important it is to look at any information you are given from many different perspectives. **When we analyse information deeply and look at it from many different perspectives we are engaging in CRITICAL THINKING.**

You learnt in the previous unit about effective ways of acquiring knowledge. As you saw in that unit, just to acquire knowledge is not enough, you have to teach yourself to think critically about the information you gather in order for you to gain the most value from it.

## Learning outcomes

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

* Understand the concept of critical thinking;
* Use the 6 thinking hats to critically approach a topic or a problem;
* Identify the characteristics of an effective critical thinker; and
* Become aware of what factors keep you from thinking critically.

2. Learning to think critically

Think back to a time when you had to learn something new - take for example riding a bicycle or learning to swim. You did not know how to do these things when you were born, someone had to teach you. **Have you ever thought about the fact that you can teach yourself to think!** Yes, even though you have been thinking everyday of your life thus far, you can teach yourself to think more effectively – that is what critical thinking skills is all about. In this section you will learn a new thinking technique called the Six Thinking Hats. **Get ready to train your brain!**

This thinking technique was invented by Dr Edward de Bono (1992) and it aims to help you look at a specific problem from various perspectives. Remember, only when we examine a situation from all angles will we understand it properly and be able to come up with the best quality solutions in our everyday lives.

De Bono (1992) said each time you are faced with a situation you must look at it from 6 different perspectives. De Bono represented each perspective by equating it with a colourful hat. Each colourful hat you put on your head reminds you that you must focus on a specific type of perspective, by doing this De Bono helps us to consider all possibilities and to structure our thinking around a given topic. The table below gives you a summary of each colour hat and the type of thinking or perspective that is associated with it.

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| Hat_1.jpg | **WHITE HAT: OBJECTIVE (NEUTRAL) PERSPECTIVE**  Each time you wear the WHITE HAT you must focus on the facts and objective details of a topic.  When a person wears the white hat they will mention the relevant facts, statistics and details that exist regarding a certain topic.  When you are wearing the white hat, you should ask the following types of questions:   * What information do we currently have? * What information do we still need? * How can we get the information we do not yet have? |
| Hat_4.jpg | **RED HAT: EMOTIONAL PERSPECTIVE**  Each time you wear the RED HAT you begin to focus on the emotions that might be involved with regard to the specific topic.  Now you can focus on giving your own subjective opinions or any negative/positive emotions you feel when you think about the situation.  When you are wearing the red hat, you should do the following:  Tell the group how you feel about the idea – does it make you happy or sad; are you positive or negative; do you get excited or depressed. Remember with the red hat you do not need proof or facts, you simply share how you are feeling about the situation. |
| Hat_7.jpg | **BLACK HAT: NEGATIVE**  When you are wearing the **BLACK HAT** it is your time to focus on the negatives of the situation. Now is the time for you to mention the risks, dangers and reasons why a possibility will not work.  When you are wearing the black hat, you should ask the following types of questions:   * What could go wrong? * What are the weaknesses of our idea? * What are the risks of this idea? * What are the possible problems? |
| Hat_5.jpg | **YELLOW HAT: POSITIVE**  The YELLOW HAT is the “sunny sunshine” hat that focuses on only the positive aspects of a topic. When you wear this hat you must focus on all the positives and good things about a situation or idea.  When you are wearing the yellow hat you should ask the following questions:   * What are the positive things about our ideas? * What will the benefits of this possibility be? * How will this help us? |
| Hat_2.jpg | **GREEN HAT: CREATIVE**  When you wear the **GREEN HAT** you should let your imagination run wild, think as creatively as possible about a situation – with the green hat on there are no restrictions or limitations – the wilder your idea, the better.  As the green hat thinker you should make note of as many options as possible without worrying if they sound correct, sensible, or considering how practical they may be. |
| Hat_3.jpg | **BLUE HAT: CONTROL**  The **BLUE HAT** is the big boss hat. When you wear this hat it is your responsibility to manage the thinking process.  If you are wearing the blue hat you must ensure that not too much time is spent focussing on one of the other hats, but that all hats contribute to the discussion. The blue hat asks the other hats to summarise and encourages the group to make a decision. |

(This activity is based on <http://www.educationplanner.bc.ca/files/Six%20Thinking%20Hats.pdf>.)

In order to help you understand how to apply these hats to a real life situation, we are going to work through a case study in small groups.

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| YGPS_group activity icon.jpg | Group Activity 4.2:  Using the six thinking hats |

Your facilitator will divide the class into 5 groups and assign a coloured hat to each group. Your facilitator will play the role of the blue hat later on in the activity.

1. Read through the scenario below and in your group discuss the scenario from the perspective of your hat – that means if your group is assigned the YELLOW HAT you must focus on all the positives, the benefits and the possibilities – you cannot discuss the negatives. Write down the thoughts and ideas your group has in the table below next to your specified hat colour.
2. The class is going to hold a forum on the scenario you have been discussing. Each group must select one spokesperson. The 6 selected spokespersons will sit in front of the class and each COLOURED HAT will be given an opportunity to share their perspective on the scenario.

The facilitator is going to play the role of the BLUE HAT to ensure that each of the other HATS have a fair chance to share their thoughts on the scenario.

1. If you are not the selected spokesperson for the group, listen carefully to what each hat is saying and make notes in the table below next to the specific colour hat (remember there are tips about note taking the unit on acquiring knowledge if you would like to refresh your memory on this skill).
2. After each HAT has given their perspective, the facilitator acting as the BLUE HAT will guide the forum to make a decision. Write down the decision taken by the group next to the BLUE HAT in the table below.

RIGHT, now you are ready to begin, ready Paul’s scenario below and begin your group discussions as described in Step 1.

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| PAUL is a Grade 12 student at Foundations High School. He is interested in studying further next year, but each time he begins to look at his different options it feels as if he is overwhelmed by all the information and he just simply gives up the investigation. He has considered the options of working overseas for a year and then some days he thinks he should go to university. His favourite subject at school is art, but he does the best academically in computers. He could possibly get a bursary to study an IT qualification. |

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| Hat_1.jpg | **WHITE HAT: OBJECTIVE (NEUTRAL) PERSPECTIVE** |
| Hat_4.jpg | **RED HAT: EMOTIONAL PERSPECTIVE** |
| Hat_7.jpg | **BLACK HAT: NEGATIVE** |
| Hat_5.jpg | **YELLOW HAT: POSITIVE** |
| Hat_2.jpg | **GREEN HAT: CREATIVE** |
| Hat_3.jpg | **BLUE HAT: CONTROL** |

Now that you have successfully completed this group activity, take a few minutes to reflect on the 6 thinking hats exercise and complete the individual activity below.

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| YGPS_activity icon.jpg | Learning Activity 4.3:  Reflecting on the 6 Thinking Hats |

Take a few minutes to think about the exercise you have just completed and answer the following questions:

1. Take a look at the decision the group came to (refer to the blue hat). When you read the case study through for the first time, is this the same decision that you would have come to on your own? Why?

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1. Did you find it difficult to focus only on the perspective that your hat required of you? For example, you wanted to mention the negative aspects of the situation but you were assigned to the white objective hat? Why do you think so? How did you handle this?

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1. Thinking back on the group activity, do you think you can improve your critical thinking skills? In what ways?

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If you look at all the ideas and perspectives that were generated by using the 6 thinking hats you can see that looking at a situation from many different angles helps you to understand the situation you are facing on a much deeper level. Another reason why it is important for you to think critically is because in life situations are often very complex and with no right or wrong answers – by taking into consideration all perspectives you are equipped to make the best possible choice.

# 3. The value of critical thinking in your life

Critical thinking goes hand in hand with good decision-making and if you are able to make good decisions, you are equipped to improve your own future.

“Insanity is doing the same thing over and over again while  
expecting a different outcome”

*– Albert Einstein*

Albert Einstein’s quote illustrates that if you are not able to think differently and open your mind to new perspectives, you will limit your growth. In the next activity you are going to focus on how critical thinking can be applicable in your own life.

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| YGPS_group activity icon.jpg | Group Activity 4.4:  Critical thinking in the real world |

You should complete this activity in groups of 2. Make sure that the partner you select was not in the same group as you in the previous activity. Together you are going to discuss the value of critical thinking in various areas of everyday life. After you have discussed each area, write down the thoughts you generated together in the space provided below.

**REMEMBER**: critical thinking is about being able to approach an issue from various perspectives, so as you discuss focus on how perspective taking will benefit the situation.

**The world of work**

With your partner name as many examples as you can of how critical thinking will help you when you are working as an employee for a company.

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**Relationships with friends and family**

Successful relationships take consistent hard work and emotional investment, they do not just happen. Why do you think perspective taking (critical thinking) is important in relationships? Write down what you and your partner have discussed.

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**Prioritizing and achieving your goals**

Due to the overwhelming amount of information that is available today, people struggle to focus on the things that really matter. Discuss with your partner how being a critical thinker can assist you in achieving your personal goals. Write down your ideas in the space below.

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**Making decisions**

Critical thinking will also help you to make important decisions on a daily basis. After having a discussion with your partner, write down some of the important decisions you will have to take in the near future. Think about how critical thinking is going help you to make the best choice and make a note of this too.

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# 4. The characteristics of a critical thinker

If you want to be a good 100 metre athlete, you must practice the 100 metre event. If you want to be a good soccer player, you must practice your ball skills, work on your fitness and be able to function effectively in a team. In the same way, if you want to be a good critical thinker you must be willing to learn and practice the skills and characteristics which are required of a good critical thinker (Brown, n.d.).

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| YGPS_activity icon.jpg | Learning Activity 4.5:  What are the characteristics of a critical thinker? |

Right, now that you know what critical thinking is, you have practiced the 6 thinking hats and you have thought about how you can apply critical thinking in the various aspects of your life, let’s take a few minutes to see if you can distinguish between the characteristics of a good critical thinker and a poor critical thinker.

First, read the statements in the characteristic column. Decide for yourself if this is a characteristic of a good critical thinker or a poor critical thinker. Indicate with a tick (√) underneath the correct column. Leave the self-evaluation column open for now, you will work on this later.

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| **Characteristic** | **Good Critical Thinker** | **Poor Critical Thinker** | **Self- Evaluation** |
| Memorises information without questioning it |  |  |  |
| Is willing to look at a problem from many different angles |  |  |  |
| Accepts all information just as it is given |  |  |  |
| Is willing to adapt to new situations and learn new ways of doing things |  |  |  |
| Takes only one perspective on a particular situation |  |  |  |
| Is willing question what most others believe |  |  |  |

Now that you have completed this task, compare your answers with those at the end of this unit. Correct any answers that you may incorrect. If you are unsure as to why you got the answer wrong, discuss the statement with your facilitator or a classmate.

The next step in this activity is to reflect on your own ability to think critically. Read each statement again and then in the self-evaluation column write down if you think this statement accurately describes you or not. Identify areas that you need to work on.

# 5. Factors that keep you from thinking critically

## Thinking habits

Studies conducted on the human brain have indicated that we tend to think in the way that we are used to, in other words each of us has our own unique thinking patterns and these can limit us from being effective critical thinkers. In the next learning activity we are going to take a look at some of these thinking patterns.

The following thinking patterns often used in the media and when people want to convince you of their specific opinion. You might also make use of them without realizing it. Each person tends to have a few thinking habits that keep them from thinking critically.

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| YGPS_activity icon.jpg | Learning Activity 4.6 |

Here are a few thinking habits that keep you from thinking critically. Read through them very carefully, as you read each statement try to analyse it critically and try to identify if any of these thinking habits apply to you. Mark these in the third column with a tick.

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| **Thinking habit** | **Description of thinking habit** | 🗹 |
| Hasty generalization | Making hasty conclusions and then generalizing this conclusion to all similar situations. |  |
| False comparison | Comparing things that in actual fact are not similar at all. |  |
| False cause | Suggesting a cause for a specific situation which cannot be proven. |  |
| Negative thinking | Focusing only on the negative aspects of a situation. |  |
| Personal attack | Trying to discredit someone in order to convince others that his/her information is false. |  |
| Appeal to pity | Using pity to try and convince someone of your opinion. |  |
| Appeal to fear | Using fear to try and convince someone of your opinion. |  |
| Appeal to authority | Using an expert to convince someone of their opinion, even though this expert is not an expert on that specific topic. |  |
| Ignoring the issue | Giving irrelevant information in order to convince others of your opinion. |  |
| Naïve thinking | When you believe all information that is given to you without evaluating or asking for the evidence. |  |

(www.laurentian.ca/NR/rdonlyres/6BBEC175-BE55-4003 8E213C52F12C4/0/module\_5\_critical\_thinking.pdf)

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| YGPS_group activity icon.jpg | Group Activity 4.7 |

In groups of 3 or 4, read the following sentences and see if you can identify the different thinking habits:

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|  | **Example of thinking habit** | **Type of thinking habit** |
| 1. | *This is Dr Smit, an expert on literature and he is going to tell you more about protecting the environment.* |  |
| 2. | *The political situation in South Africa is similar to that in Zimbabwe* |  |
| 3. | *Henry had a car accident a few years ago, while driving after 12 o’clock in the evening and lost both his legs. The government must forbid all people from driving after 10 o’clock in the evening.* |  |
| 4. | *Look at the crime statistics in South Africa – there is no hope!* |  |
| 5. | *My friend told me that her father went to the moon and I think that’s very cool.* |  |
| 6. | *I got robbed at a bank two months ago and I now don’t go to any bank without my pepper spray as I will definitely be robbed again.* |  |
| 7. | *If you do not buy this pepper spray you are bound to be robbed.* |  |
| 8. | *Last year I picked up 20 kilograms after I started drinking low fat milk. I am sure it is because of the milk that I got so fat.* |  |
| 9. | *People in South Africa are living in fear because of the crime rate. All people must therefore try and save electricity* |  |
| 10. | *Whatever that lecturer says is untrue. I saw him last week with his wife and he spoke very badly to her - I really don’t trust anything he has to say.* |  |

## Personal Biases

Biased thinking is one thinking pattern that deserves special attention as it is one of the most common used thinking patterns that keeps us from thinking critically. Biased thinking can be compared to glasses with coloured lenses. The moment you have glasses with red coloured lenses on everything seems red and the same with blue, green and other colours.

Take the following example: Lerato thinks that all men are misusing women. Every time she sees a man talking to a woman she hears that he will misuse her at some stage. Lerato is seeing this situation through her “glasses”, she is being biased by her personal beliefs and this is limiting her ability to think critically in the situation and take any other perspective than then one she already has.

It is as if these negative biases are some kind of button that gets pushed and if that specific button gets pushed the person doesn’t want to hear anything further that anyone has to say. Some typical examples of *buttons* are the following:

* Political opinions
* Religious opinions
* Stereotypical opinions about race, language or gender

To be a critical thinker does not mean that we cannot have strong opinions about politics or religion, it does however mean that we must be willing to view the situation from other perspectives too and always remain aware of the fact that what we believe is influenced by our own biases and thinking patterns.

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| YGPS_group activity icon.jpg | Group Activity 4.8:  Case study |

Divide into groups of three or four and use the six thinking hats to solve the problem. In order to solve the problem more effectively, make use of all the thinking hats more than once. In your groups make a PowerPoint presentation that depicts each of the 6 hats and the comments related to each one. Be as creative as possible

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| You are a Grade 12 learner and have been working really hard at school in order to be able to go to university. So far your marks have been quite good. Your parents are not able to afford the fees for studying at university. There is a chance that you might qualify for a bursary or a loan, but you are not sure yet. If you do not qualify for a bursary or a loan you do not know how you will fund your studies or if it will be possible to study at all. A friend at school who is not planning to study after school misses school quite often tells you that she has recommended you for a job as a sales assistant at a fancy store in town where she has been working for the past month. You meet with the store manager who thinks you are perfect for the job and says you must start right away, working full time. The monthly salary is not bad, and the working conditions seem OK too. The catch is that you must start immediately which means that you will not be able to continue attending school to the end of grade 12. On the other hand, if you earn some money, you might be able to afford further study at a later stage. What do you do? |

# 6. End of section comments

Critical thinking is a **LEARNT** skill that has many advantages and will assist you in becoming more successful and reaching your dreams within your career and personal life. By practicing critical thinking every day you will see the change in your studies as well as in the way people see you.

Remember that critical thinking develops your thinking skills, but that it always has a specific purpose. It must serve you in becoming more successful and should therefore not be put to negative use. Watch out for that thinking habits and coloured lenses (biases) and you will be on your way to reaching your dreams.

During this section you have learnt to think critically and the next section will help you to communicate these thoughts better.

# 7. Feedback

The solutions to learning activity 5.2 are the following:

1. Appeal to authority
2. False comparison
3. Appeal to pity
4. Negative thinking
5. Naïve thinking
6. Hasty generalization
7. Appeal to fear
8. False cause
9. Ignoring the issue
10. Personal attack

# 8. Tracking my progress

You have reached the end of this section. Check whether you have achieved the learning outcomes for this section.

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| **Learning outcomes** | **✓ I feel confident** | **✓ I still need practice** |
| I understand the concept of critical thinking. |  |  |
| I understand the value of using critical thinking in my everyday life. |  |  |
| I can identify the characteristics of a critical thinker. |  |  |
| I learned how to think critically using the 6 thinking hats |  |  |
| I learned what factors can keep me from thinking critically. |  |  |

What did you like best about this section?

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What did you find most difficult in this section?

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What do you need to improve on? How will you do this?

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