

Thinking skills

Dr Kaya Prpic
Engineering Learning Unit
The University of Melbourne

6 thinking hats

"Put on your thinking hats"

To be an effective problem based learner you need to develop your thinking skills.



The notion of six thinking hats comes from Edward De Bono (For a more detailed discussion about the six thinking hats, read *Six Thinking Hats* by Edward De Bono, 1985).

There are six metaphorical hats and each defines a certain type of thinking. You can put on or take off one of these hats to indicate the type of thinking you are using. This putting on and taking off is essential, because it allows you to switch from one type of thinking to another. When done in your group, everybody should wear the same hat at the same time.

The white hat

Think of white paper, which is neutral and carries information.

The white hat covers facts, figures, data and information. Too often facts and figures are embedded in an argument or belief. Wearing your white hat allows to present information in a neutral and objective way.



Questions you might ask while wearing your white hat include:

- What information do we have here?
- What information is missing?
- What information would we like to have?
- How are we going to get the information?

When all your group members put on their white hats, they focus directly on the information. For the moment everyone looks to see what information is available, what is needed, and how it might be obtained. Proposals, opinions, beliefs and arguments are put aside.

The red hat

Think of red and fire and warm.

The red hat covers intuition, feelings, hunches and emotions.

Usually, feelings and intuition can only be introduced into a discussion if they are supported by logic. Often, the feeling is genuine but the logic is spurious. Wearing the red hat allows you to put forward your feelings and intuitions without the need for justification, explanation or apology.

Putting on my red hat, you express what you feel about the project.

My gut-feeling is that this will not work.

I don't like the way this is being done.

This proposal is terrible.

My intuition tells me that prices will fall soon.

The red hat allows feelings, as such, to come into the discussion without pretending to be anything else. It is always valuable to get feelings out into the open.



The black hat

Think of a stern judge wearing black robes

The black hat is the hat of "caution" and "judgement".

Wearing the black hat allows you to consider your proposals critically and logically. The black hat is used to reflect on why a suggestion does not fit the facts, the available experience, or the system in use.

Wearing your black hat you might consider the following:

Costs. (*This proposal would be too expensive.*)

Regulations. (*I don't think that the regulations would allow ...*)

Design. (*This design might look nice, but it is not practical.*)

Materials. (*This material would mean high maintenance.*)

Safety issues. (*What about handrails?*)

Mistakes can be disastrous. So the black hat is very valuable. It is the most used hat and possibly the most useful hat. However, it is very easy to overuse the black hat. Caution, used too early in the problem solving process, can easily kill creative ideas with early negativity.



The yellow hat

Think of sunshine.

The yellow hat is for optimism and the logical positive view of things. Wearing the yellow hat allows you to look for benefits, feasibility and how something can be done.

Questions you might ask while wearing the yellow hat include:

- What are the benefits of this option?
- Why is this proposal preferable?
- What are the positive assets of this design?
- How can we make this work?

Yellow hat thinking is a deliberate search for the positive. Benefits are not always immediately obvious and you might have to search for them. Every creative idea deserves some yellow hat attention.



The green hat

Think of vegetation and rich growth

The green hat is specifically concerned with new ideas and new ways of looking at things. This is the hat for:

- creative thinking
- Additional alternatives
- putting forward possibilities and hypotheses
- interesting proposals
- new approaches
- provocations and changes

The green hat makes time and space available to focus on creative thinking. Even if no creative ideas are forthcoming, the green hat asks for the creative effort. Often green hat thinking is difficult because it goes against our habits of recognition, judgement and criticism.

Questions you might ask while wearing your green hat include:

- Are there any other ideas here?*
- Are there any additional alternatives?*
- Could we do this in a different way?*
- Could there be another explanation?*



The blue hat

Think of the sky and an overview.

The blue hat is the overview or process control. It is for organizing and controlling the thinking process so that it becomes more productive. The blue hat is for thinking about thinking. In technical terms, the blue hat is concerned with meta-cognition.



Wearing your blue hat, you might:

- look not at the subject itself but at the 'thinking' about the subject.

- thinks about the thinking being used during a group meeting

- set the agenda for thinking

- suggest the next step in the thinking, "*I suggest we try some green hat thinking to get some new ideas*"

ask for a summary, conclusion, or decision, "*Could we have a summary of your views?*"

