Critical Thinking #3: Developing Questions to Achieve the Optimal Outcome - IVT BLOG

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INTRODUCTION

With both change controls and root cause determinations, the proposal or outcome can be subject to criticism and contradictory perspectives. You are more likely to succeed in reaching agreement on an issue if you have rehearsed your argument and researched the topic (1). An even greater chance of success arises from critical questioning (2). This is enhanced if you can critique your proposal from the opposing viewpoint.

This article is one of a three-part series about critical thinking in the context of pharmaceutical and healthcare organizations:

- Critical thinking #1: Why pharmaceuticals and healthcare needs more critical thinkers.
- Critical thinking #2: Reading research papers.
- Critical thinking #3: Self-questioning and questioning for a better outcome.

We follow on from the research underpinning a proposal to the processes of developing the proposal from the perspective of the person sponsoring a change and from the perspective of the person who will be critiquing the change proposal. Both of these scenarios require a critical questioning approach.

CRITICAL QUESTIONING

In the context of presenting a change control proposal or a root cause analysis outcome (or something similar), consider if you are able to (3):

- Identify a range of positions on a particular issue. Compare and contrast opposing views.
- Judge the credibility of the sources. Is there any bias, prejudice or self-interest?
- Evaluate the opposing arguments, based on the evidence presented.
- Bring together a range of evidence to make your point.
- Conclude based on a line of argument.
- Present your argument clearly, in a manner to persuade others.

When presenting an idea (like a change control) that might be controversial or open to different opinions, as part of the preparation it is good practice to develop the steps of the argument. This practice can be broken down into different stages and asking *the right questions* as you proceed (4). As an example:

Stage 1: Get started

- Analyze the issue.

- Get an overview of what other companies are doing (in doing so, critical thinking involves looking beyond the obvious surface issues, asking questions about motivation and purpose).

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Understand what you want to make the change and why it is important.

Stage 2: Create a working hypothesis

- Write an initial response offering a few conclusions as a basic answer to the issue.   Try to limit this to two or three sentences.

Stage 3: Test your hypothesis with questions
Try to interrogate the hypothesis along the lines that those with opposing views (or senior managers might do). This could be by:

1. **Step one:** Pretend you disagree – why would you disagree?
2. **Step two:** Pretend you agree totally – and add something else in support.
3. **Step three:** Agree to some extent but point out weaknesses.

It can also be useful to pose the following questions to yourself:

- What evidence do I have in support of / against this?
- What theoretical perspectives does it fit / not fit with?
- What evidence of support is there from other companies or from regulators?

It can also prove useful to make comparisons, such as looking for differences and similarities.

Stage four: Modify and develop your answers
As you find out more about practices in industry or what regulators are seeking, keep the following questions in mind:

- How far does what you have found confirm your answers?
- How far does what you have found contradict your answers? Do you need to modify your answers?

With this exercise you will be able to determine whether you want to keep your response and conclusions the same? If there are new questions or issues, consider how you will build these into your argument?

AVOIDING THINKING 'BLOCKAGES'
With critical questioning it can sometimes be too easy to create barriers to thinking critically. Ways to overcome this include:

- Using facts not assumptions.
- Accessing multiple points of view.
- Interpreting information accurately to prevent conflicts.
- Discussing issues with others.
- Asking (and answering) questions.

COMMUNICATION
Once it comes to the point when the proposal or exercise outcome is ready to be presented to others, it is important to communicate effectively with others. New and perhaps unexpected questions may arise and it is important to be prepared in figuring out solutions to complex problems. One part of communication isa listening and critical thinking is not about listening that can be done passively and uncritically; instead, it is concerned with listening actively and critically.

ASKING QUESTIONS
From the point of view of receiving information - that is asking questions of the person making the proposal – more information can be drawn out by:

- Asking open questions. These are open-ended questions that avoid 'yes' or 'no' answers. For example, ask: "What is the purpose of this change control?" Instead of: "Is this the purpose of this change control to…?"
- Avoiding leading questions. This means keeping the questions as neutral as possible. Such as using the following: "What is your take on the best solution to address contamination?" Instead of: "Don't you think an acid wash will address residual contamination?"
- Avoid asking questions with no real boundaries. This means setting up an accurate framework in which your questions can be answered. Try asking questions like: "What is the source of fungi in the final formulation area?" Instead of: "Where are fungi found?"

Sometimes there is the need to dig deeper, occasionally narrowing the scope of questioning and then moving back to ask border questions. The 4-W and 1-H approach is a tool that can be deployed for probing and extracting the relevant information. By this:

Who:
  …would benefit?
  …would this harm?
  …is responsible?
  …has researched this before?

What:
  …is the other perspective?
  …would be the challenges?
  …are the strengths?
  …is the key subject?

Where:
  …would this problem reside?
  …are there similar situations?
  …can more information be found?
  …can this be improved on?

When:
  …is this acceptable and unacceptable?
  …could this be implemented?
  …would we be able to measure the results?
  …is it time to stop this action?

Why:
  …is this a problem?
  …is this relevant?
  …should this be known about?
  …is there a need for this?

How:
  …is this different from anything else similar to it?
  …it functions?
  … is this the truth about it?
  …could it harm anyone?

CONCLUSION

This article has considered critical questioning from the perspective of preparing for a meeting where there may be different points of view (such as going in front of a change control committee or with presenting the findings of a deviation) and for asking searching questions when presented with such information.

In summary, the approach can perhaps be simplified to (5):

- Ask (pose question).

- Investigate (identify resources).

- Create (interpret and synthesize).

- Discuss (report findings).

- Reflect (follow the process backward).

The aim here was to demonstrate how critical thinking involves both skills and abilities of reason assessment, and the disposition to exercise those abilities through questioning – either reflective questions before a proposal is made or actively in the context of the person reviewing the proposal. Through this approach better decisions can

be reached, and changes will be better controlled within the workplace.

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