Critical Thinking and Problem Solving

CCE Webinar
October 15, 2015
Nan Gesche

COLLEGE OF CONTINUING EDUCATION

UNIVERSITY OF MINNESOTA
Welcome

• Thank you for joining us for this College of Continuing Education webinar

• Critical Thinking and Problem Solving

• Moderator: Alaina Schulz
  Information Center Representative
  College of Continuing Education
Please submit questions at any time during the webinar. Questions will be addressed at the end of the webinar as time permits.

Click the “Q&A” button.

Type your question and click send.
Webinar Recording

• A link to a recording of this webinar will be e-mailed to all registrants.

• You can expect to receive the webinar link in the next few days at the e-mail you submitted during your registration.
“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”
What is Critical Thinking?

• The analysis of and evaluation of ideas and information in order to reach sound judgments and conclusions.
• It is central to any discussion, to decision making, and to problem solving.
Three Steps to Critical Thinking

1. Becoming aware that assumptions exist
2. Making the assumptions explicit
3. Assessing their accuracy and validity by asking:
   – Do these assumptions make sense?
   – Do they fit reality as we now understand and live it?
   – Under what conditions do they seem to hold true?
   – Under what conditions do they seem false?
Assumptions

HE DOESN'T RESPECT MY WORK. I CAN TELL BY THE WAY HE'S SITTING.

TWO CAN PLAY THIS GAME. I WILL HATE YOU WITH THE FURY OF A THOUSAND SUNS!

DIE! DIE! DIE!

RATS. I SAT DOWN WRONG AND GAVE MYSELF A WEDGIE.
I don't trust Rashmi anymore. I am curt with her and I don't include her in future projects.

Since Rashmi is unwilling and irresponsible, I must not trust her and avoid giving her any additional responsibilities in future.

Rashmi is not interested in taking up additional responsibilities. She is also very irresponsible.

Rashmi faked illness and lied. She was not interested in the assignment.

Rashmi deliberately took leave to get away from the assignment. She avoided talking to me as well.

Rashmi misses a deadline for the assignment. She gives no apology or explanation and goes on sick leave.

(Source: The Fifth Discipline By Peter Senge)
Primary Skills for Critical Thinking

• Reflection – slowing down our thinking processes to become more aware of how we form our perceptions of things.

• Inquiry – holding conversations where we openly share views and develop knowledge about each other’s assumptions.
How Do We Apply Critical Thinking to Walk Down The Ladder of Inference?

• Identify the conclusion someone is making

• Ask for the data that lead to that conclusion

• Inquire into the reasoning that connects data and conclusion

• Infer a possible belief or assumption

• State your inference and test it with the person
“There Is Always a Way!”
Beginner’s Mindset

• Listen rather than think of your response
• Focus on the future rather than the past
• Acknowledge your reactions
  – “Here’s what I’ve experienced that makes me feel this way about this issue and why.” Once you understand your assumptions, you can start challenging them. “How would my view of this situation change if that bubble was empty?”
Questioning Techniques to Effectively Engage Others

• Have some basic questions to start the conversation
• Contact to see if now is a good time to discuss the problem
• Use neutral wording: “What do you think of the complaints?”
• Speak their language, relate questions to the other person’s frame of reference
• Use words that everyone will understand
• Make sure you only ask one question at a time
Types of Questions

• Open-ended vs. Closed-ended
• Neutral vs. Leading
• Primary vs. Follow-up (Funnel)
• What, So What, Now What
**Open vs. Closed**

**Open-ended** gain insight into information you didn’t know existed. Specific questions often draw information out of people who might be reluctant to talk. They often start with:

- .....else?  Who else? When else?
- .....exactly? When exactly?

**Closed-ended** often result in a yes or no answer. They often start with:

- Would, should, is, are, and do you…
Neutral vs. Leading

**Leading** questions can leave people feeling that they didn’t have a choice in how to respond or a chance to tell their whole story. They can be self-serving. “Should we assume that X is the cause of the problem?”

**Neutral** question are more likely to be open-ended questions that don’t include a possible solution.
Primary questions are one of the rare cases that it might be O.K. to start with a closed ended question. “Did you experience the problem?”

Follow-up/funnel questions dig deeper and continue to focus on more specifics. Again, they are often open-ended questions. “How did the problem impact you? What more can you tell me? Who else might I ask?”
## Is/Is Not Analysis

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What, So What, Now What?

**What** – establish the need for the solution
- What is the basic need?
- What is the desired outcome?
- What isn’t working?

**So What** – what makes this important
- Who does it impact?
- What are the benefits?
- How significant is the issue now?

**Now What** – give content to the situation
- What have we tried?
- What have others tried?
- What constraints exist?
Roadblocks to Thinking Critically

- Closed-minded
- Fear we might be wrong or don’t know
- Making assumptions
- Falling into old ways of thinking or habits
- Rushing to a solution, just wanting to be done
- You comfort level is asking questions and playing devil’s advocate
Problem Solving Process

- Define the Problem
  - Gap analysis: current state vs. desired state
- Analyze potential causes for the problem
- Generate possible solutions
- Select the best possible solution
- Develop an action plan
- Implement and evaluate solutions
Gap Analysis

• **Current state**: what is happening now

• **Gap**: what is keeping us from the desired state

• **Desired outcome**: where we want to be
Gap Analysis

• **Current state:**
  – “There is bound to be resistance to this change.”
  – “Customer satisfaction has declined.”
  – “Turnover has increased 20% in the past two years.”

• **Desired outcome:**
  – “How can I get support for the change?”
  – “How do we get customer satisfaction back to 2010 standards?”
  – How can we reduce turnover to be consistent with the industry standard of 8%?”
Four-Step Process for Defining & Articulating Problems

1. Establish the need for a solution *(What)*
2. Justify the need *(So what)*
3. Contextualize the problem *(Now what)*
4. Write the problem statement
STEP 1 Establish the Need for a Solution

• What is the basic need?
  – Avoid jumping to conclusions

• What is the desired outcome?
  – Understanding the situation from multiple perspectives: customers, organization, etc.
  – Qualitative and quantitative

• What isn’t working?
STEP 1 Establish the Need for a Solution

• What is the basic need?
  – Increase customer satisfaction

• What is the desired outcome?
  – Customer satisfaction ratings return to 2010 figures of 94%

• What isn’t working?
  – Our customers are disappearing. We seem to have more returns. Turnover is increasing.
STEP 2  Justify the Need

• Is the effort aligned with our strategy?

• Who benefits? What are the desired benefits, and how will we measure them?
  – Market leader, profitability, etc.

• How will we ensure that a solution is implemented?
  – Who will be accountable for implementation when we get to the solution stage? Whomever this is, you might bring them in at the start of the process.
STEP 2  Justify the Need

• Is the issue relevant to making our strategy?
  – If your strategy is customer, quality, or efficiency focused – absolutely.

• Who benefits? What are the desired benefits, and how will we measure them?
  – Us: Profitability margins would increase as employees should be able to better serve first-time customers. Measure might include number of first-time sales, number of returns.
  – Customers: Don’t have to return items.

• How will we ensure that a solution is implemented?
  – Store managers and front-line employees will be responsible for customer satisfaction.
STEP 3  Contextualize the Problem

Avoid Reinventing the Wheel

• What approaches have we tried?
  – Increased store hours
  – More employees during peak hours

• What have others tried?
  – Promotions to get new customers in the door
  – Pricing incentives

• What are the internal and external constraints on implementing a solution?
  – External: plenty of competition
  – Internal: younger sales team
STEP 4 Write the Problem Statement

- Break the problem into several smaller problems.
- Clarify the “have-to-have” vs. the “nice-to-have” elements of an ideal outcome or solution.
- Think about who needs to be involved in the process.
- Make the statement as specific as possible without making too technical.
- If opening the problem up to other, what processes must they follow?
- Make sure people understand the benefit for their participation.
- Define what success will look like, using quantitative and qualitative measure when possible.
STEP 4 Write the Problem Statement

• Break the problem into several smaller problems.
  – Identify internal issues that might be the root cause of the customer satisfaction problem: turnover, product quality

• Clarify the “have-to-have” vs. the “nice-to-have” elements of an ideal outcome or solution.
  – HTH -Absolutely can’t increase staffing numbers.
  – NTH – Great diversity of workforce.

• Think about who needs to be involved in the process.
  – Store managers, current employees, customers, etc.
STEP 4 Write the Problem Statement

Customer satisfaction in all our stores has been decreasing (General Problem). For the last 7 quarters we have seen customer satisfaction slip by 2% each quarter (Specific problem with numbers). This slippage has reduced our profit margins to the point that if this trend continues another 2 quarters, we will have to take drastic measures to cut costs. One of our organizational values is “customers count,” and this project is critical for retaining our values and our workforce.
STEP 4 Write the Problem Statement

To find a new approach to increasing customer satisfaction.

The solution needs to better engage our employees and customers to identify three opportunities for improvement. The data to be gathered in this project is to provide leaders with information relating to how they may best address or mitigate internal factors contributing to the current decline in customer satisfaction levels. The goal is to increase customer satisfaction measure by 2% in the next two quarters, and another 2% each quarter after that for the next year.
STEP 4 Write the Problem Statement

Seeking ideas for a low-cost water collection and storage systems for individual households in developing countries.

The solution is to help provide clean water to millions of people in rural areas. The solution as to be portable (less than 8 lbs.), easily constructed, and cost less than $20/home. Such systems would reduce the need for women and children walking great distances to collect water. This would allow them more time for educational and income-producing activities meant to improve their quality of life long term.
The way we see a problem IS the problem.

Stephen Covey
What’s Next

Take the full course **August 24, 2016.**

We will learn more about Root Cause Analysis and Specific Decision-Making Processes.
Thank You For Attending

*Look for an e-mail with a link to this presentation in the next few days.*

**Upcoming course dates:**

- **Project Management Foundations** – Oct. 23, 2015
- **Negotiate for Agreement** – Dec. 8 & 10, 2015
- **Critical Thinking and Problem Solving** – Feb. 4, 2016

**For more information:**
- cce.umn.edu
- 612-624-4000
Thank You!

Nan Gesche