Interviewing Subject Matter Experts (SMEs)

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Agenda

- **Part I: Preparing for the Interview**
  - Subject Matter Experts (SMEs)
  - Do Your Homework
  - Question Formulation
  - What to Provide in Advance

- **Part II: Conducting the Interview**
  - Behavior and Body Language
  - Active Listening
  - Techniques on Successful Questioning
  - Possible Issues

- **Part III: Follow-up**
  - Maintaining the Relationship

Part I: Preparing for the Interview

Subject Matter Experts (SMEs)

- A SME is someone who has advanced or highly-specialized knowledge in a particular field, area of practice, process, technical method, piece of equipment, etc.

- SMEs can help with:
  - Explaining their field or area of expertise
  - Understanding and explaining terms and industry jargon
  - Bridging the gap between an interviewer's subject area and theirs
  - Provide unique information and experiences that one may not be able to find online or anywhere else

Do Your Homework

- **SME's background**
  - Role on team
  - Area of expertise

- **Domain Knowledge**
  - Industry basics, dynamics, concepts and jargon
  - How decisions are made, processes, policies
  - Program accomplishes, successes and failures to date

- **Functional Knowledge**
  - Specific area's scope of effort
  - Function's basics and jargon
  - Technical processes

Preparing Questions

An estimate is only as good as its data

If the SME interview is being used as a Data Collection method, then the
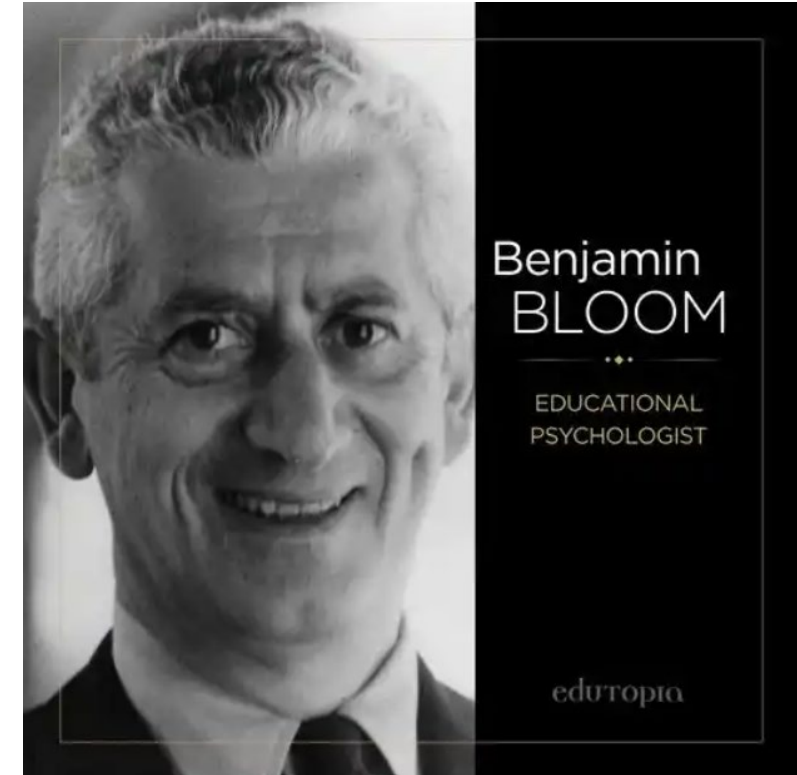quality of the questions asked
will determine the
quality of the estimate

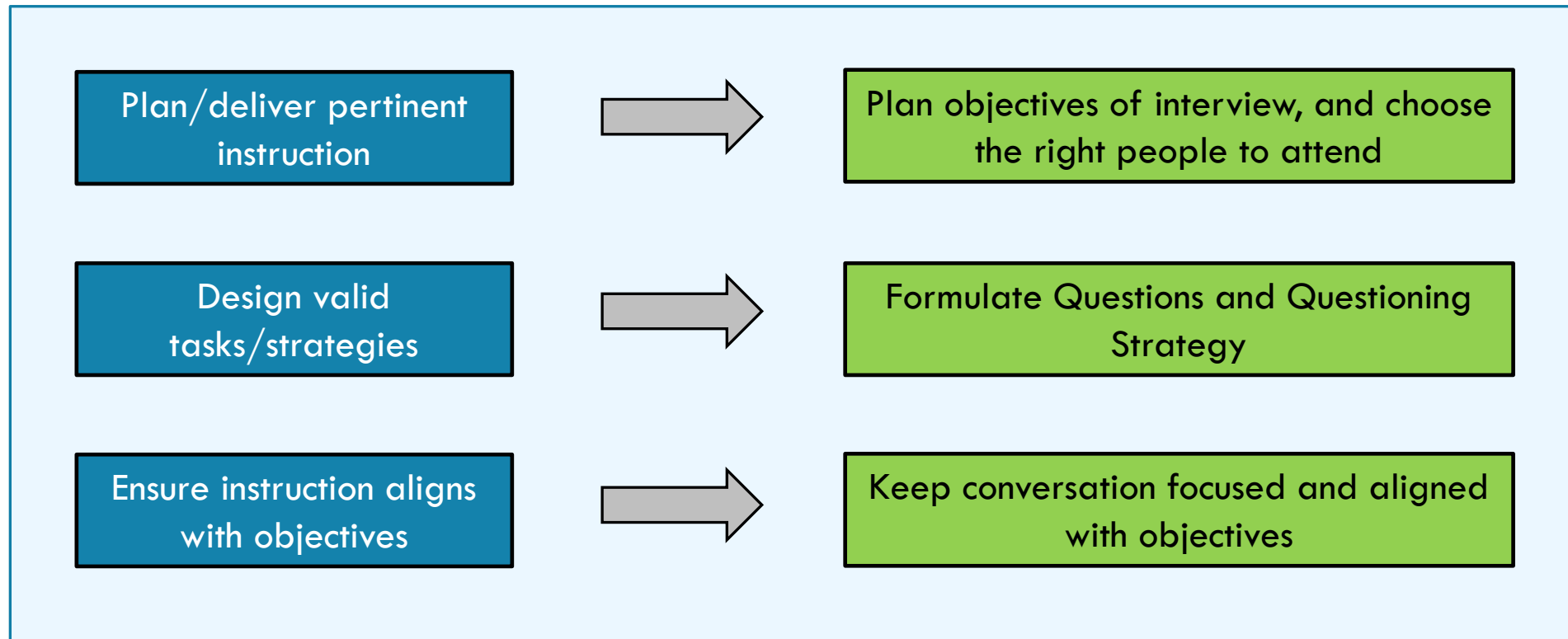Educational theory can help with this…

Bloom's Taxonomy

- Named after Benjamin Bloom, educational psychologist (1913-1999)

- Classifies how people learn

- Provides framework for teachers to develop, organize and clarify objectives

- Helps to:
  - Plan/deliver pertinent instruction
  - Design valid tasks/strategies
  - Ensure instruction aligns with objectives

Benjamin
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Bloom's Taxonomy

So how does this apply to interviewing SMEs?

Plan/deliver pertinent instruction	→	Plan objectives of interview, and choose the right people to attend
Design valid tasks/strategies	→	Formulate Questions and Questioning Strategy
Ensure instruction aligns with objectives	→	Keep conversation focused and aligned with objectives

Bloom's Taxonomy
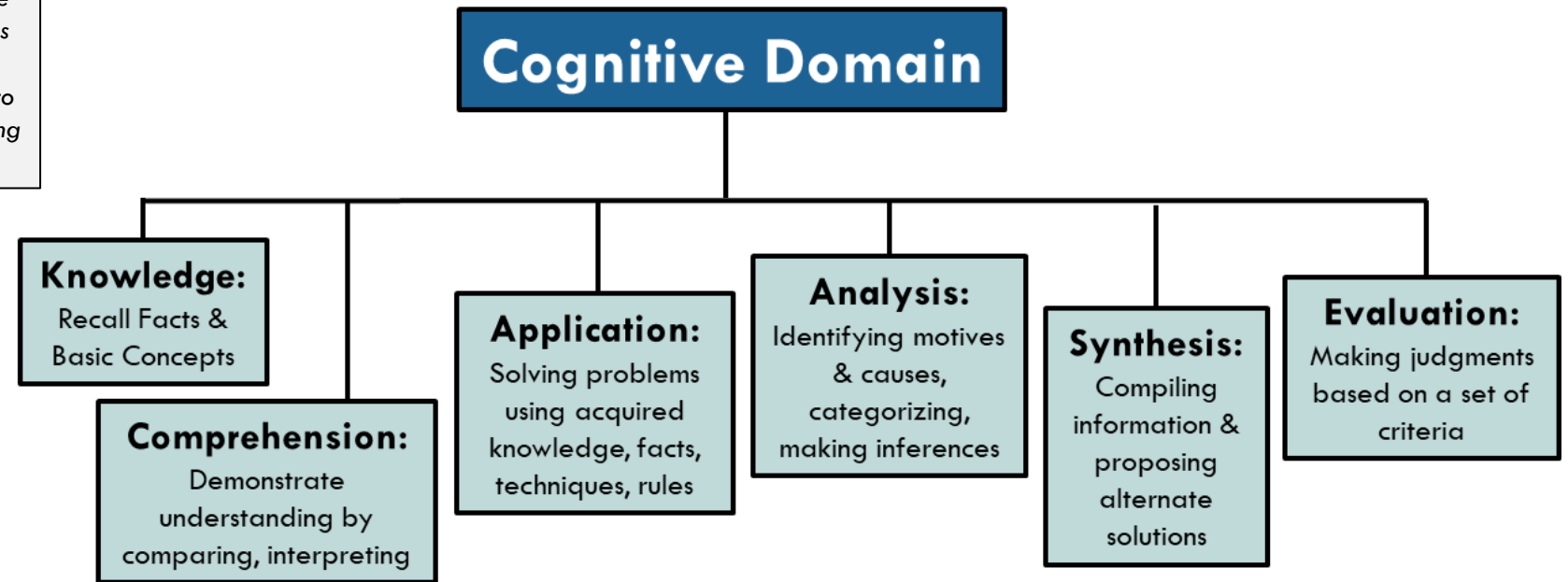
Educational objectives are divided into 3 domains

Cognitive:
Knowledge Comprehension Critical Thinking

Cognitive Domain is most relevant to interviewing SMEs

Affective:
Attitudes
Emotions
Feelings

Psychomotor:
Ability to manipulate a tool or instrument

The Cognitive Domain is then divided into 6 subdomains

Cognitive Domain

Knowledge:
Recall Facts & Basic Concepts

Comprehension:
Demonstrate understanding by comparing, interpreting

Application:
Solving problems using acquired knowledge, facts, techniques, rules

Analysis:
Identifying motives & causes, categorizing, making inferences

Synthesis:
Compiling information & proposing alternate solutions

Evaluation:
Making judgments based on a set of criteria

Bloom's Taxonomy

Subdomain	Keywords
Knowledge	What, When, Who, Define, Distinguish, Identify, List, Name, Recall, Reorganize, Show, State, Write, Which, Indicate, Tell How
Comprehension	Compare, Conclude, Contrast, Demonstrate, Predict, Reorder, Distinguish, Estimate, Explain, Extrapolate, Give an example of, Relate, Tell in your own words, Illustrate, Hypothesize, Outline
Application	Apply, Develop, Test, Consider, Build, Plan, Choose, How would, Construct, Solve, Demonstrate, Indicate
Analysis	Analyze, Categorize, Describe, Classify, Compare, Distinguish, Relate, Explain, What assumption, What do you
Synthesis	Think of a way, Create, Propose a plan, Put together, What would be, Suggest, Develop, Make up, What conclusion, Formulate a solution
Evaluation	Choose, Decide, Evaluate, Judge, Check, Select, Which would you consider, Defend, What is most appropriate, Indicate, Prioritize, Rate

Quality of Questions

Bad question:
Is this feature important?

Not as Bad question:
Why is this feature important?

Good question:
Can you give me three reasons why this feature is important?

Great question:
How is the system or user impacted by not having this feature?

Question Formulation

Do	Don't
✓ Use open-ended questions	× Don't ask questions that can be answered with yes or no
✓ Ask clarifying questions which help to understand root issue or bottom line	× Don't ask leading questions or rhetorical questions with a predetermined conclusion
✓ Ask about his/her perspective, assumptions, actions to get understanding of how they think	× Don't ask questions in a way that would be perceived as manipulative or dishonest
✓ Keep questions short and to the point	× Don't ask about assumptions or beliefs of other people
✓ Consider sequence/order of questions	× Limit the use of questions beginning with "why"

What to Provide in Advance

✓**Date & Time**
- Provide two or three choices in the initial meeting request
- Provide duration of meeting

✓**Location**
- Consider the layout of the location and make sure distractions are minimized

✓**Context**
- Set the stage by providing purpose of interview

✓**Agenda**
- High level topics to be addressed
- Determine case-by-case if providing detailed questions in advance will help or hinder

Part II: Conducting the Interview

Body Language

- Body language can convey internal emotions and mental states

- For example,
  - Aggressive: frowns, pursed lips, interrupting
  - Bored: doodling, staring around the room, watching the clock, yawning
  - Relaxed: torso well balanced by not tense, steady breathing
  - Trustworthy: maintaining relaxed expression without extremes, sustaining steady gaze, maintaining appropriate distance while still being close enough to show interest
  - Attentive: nodding, ignoring distractions, leaning forward slightly

Active Listening

- Communication technique that provides feedback to the speaker or presenter

- Creates an atmosphere of cooperation while avoiding misunderstandings and resolving conflicts

- Tactics:
  - Nodding and Yes's
  - Raising eyebrows in anticipation
  - Listen for content and underlying emotions
  - Reflect what you heard back to the SME
  - Show empathy and concern where appropriate to form a more powerful bond

Socratic Questioning
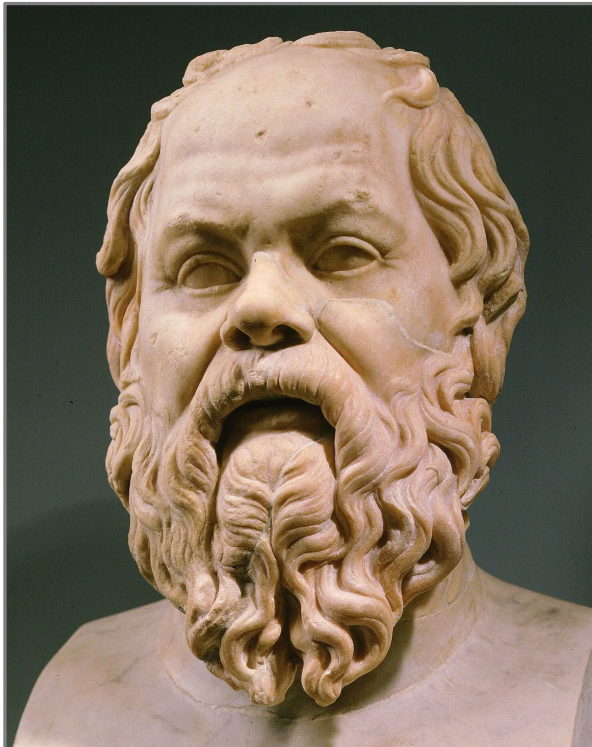
- Named after Socrates, Greek philosopher (470-399 BCE)

- Socrates believed that we have the answers inside of us, but we are often unaware of them

- Method of inquiry and discussion that uses series of questions to get to underlying assumptions, beliefs, and contradictions

- Used by:
  - Educators to stimulate critical thinking
  - Psychologists for cognitive restructuring, understanding the underlying logic to illogical reactions and thoughts

- Best known for being used in law schools to find the holes in arguments

Socratic Method

- Play devil's advocate

- Challenge assumptions

- Pose hypothetical situations

- Eliminate contradictions

- Test the logic

- Ask clarifying questions:
  - Can you please elaborate?
  - Why is that important?
  - Can you provide an example?
  - Can you say that another way?
  - How would you explain that to a non-technical person?

Possible Issues

- **"There is no data"**
  - There is ALWAYS some form of data!
  - Ask for analogous programs
    - Technical
    - Schedule
    - Acquisition process
    - Separate elements

- **Point estimate is very optimistic and/or schedule is overly aggressive**
  - Get ranges
  - Push boundaries
  - Ask about hypothetical situations

Possible Issues

- **Discussion becomes extremely technical**
  - Ask for "7th-grade version"
  - Ask how the expert would explain this to someone outside of the industry
  - Ask for examples

- **Analyst cannot visualize what expert is describing**
  - Ask to see demo, prototype, videos
  - Ask to visit facilities, see production line

Possible Issues

- **Not getting the type of answers expected**
  - Remind yourself of the objective of the question
  - Reword the question
  - Ask clarifying questions

- **Expert does not know answers to questions**
  - Ask to be referred to someone who will know these answers
  - As a professional courtesy, get contact info and permission to contact directly, or ask SME to initiate meeting with that person (in-person, phone call, or email will do)

Additional Tips

- Ask questions one at a time

- Word questions clearly

- Remain as neutral as possible

- Encourage responses

- Provide transitions between topics

- Keep control of the interview

- Be in the moment

- LISTEN!

Part III: Following Up

Following Up

- Send Thank You email

- Include summary of discussion

- Include action items

- Ask SME to confirm your understanding of the conversation

- Ask clarifying questions after the fact, if necessary

- Let SME know how you used the information once analysis is complete

- Maintain the relationship

Questions?

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