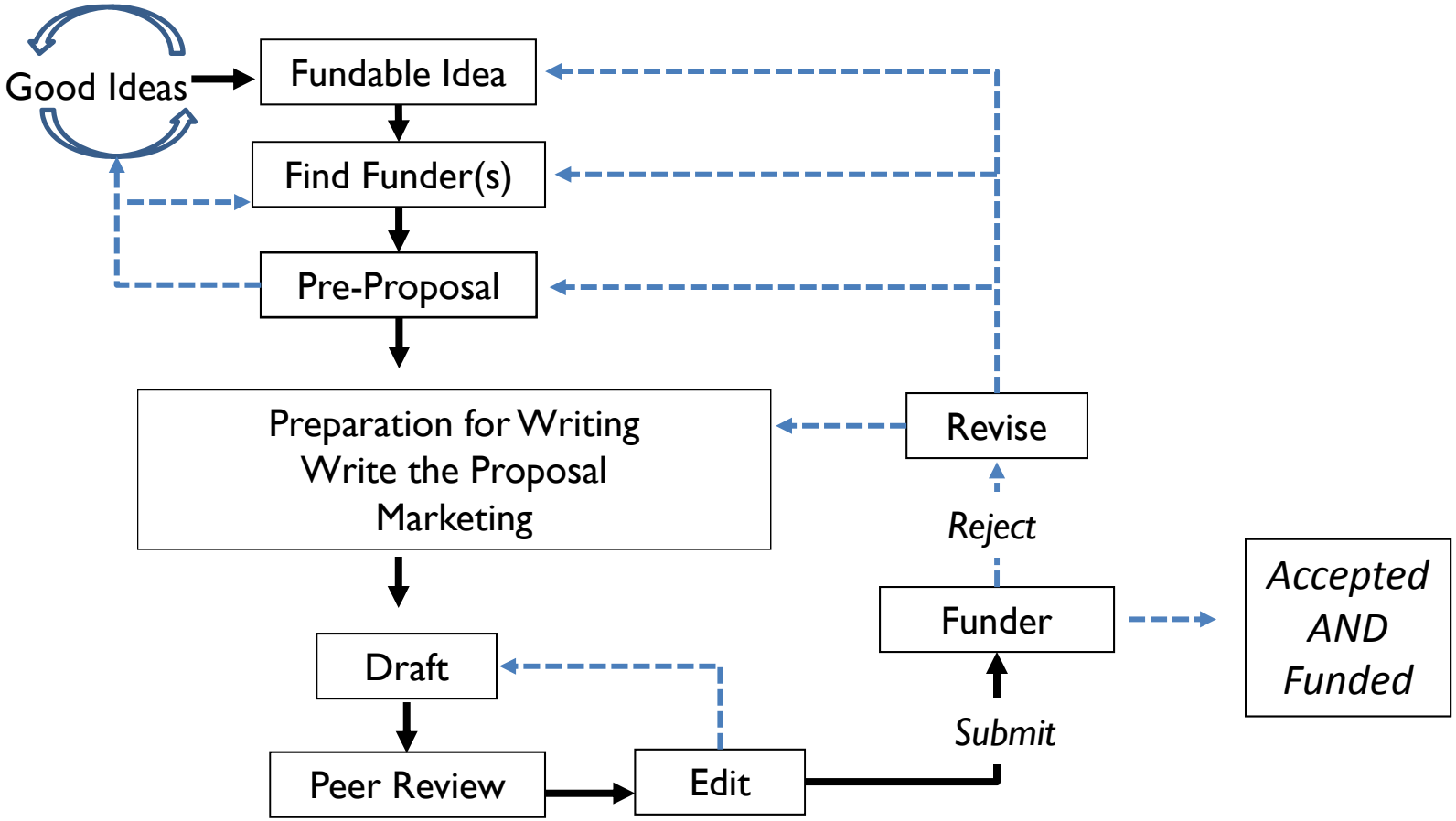
Grant Proposal Development Bootcamp

May 9-12th , 2016

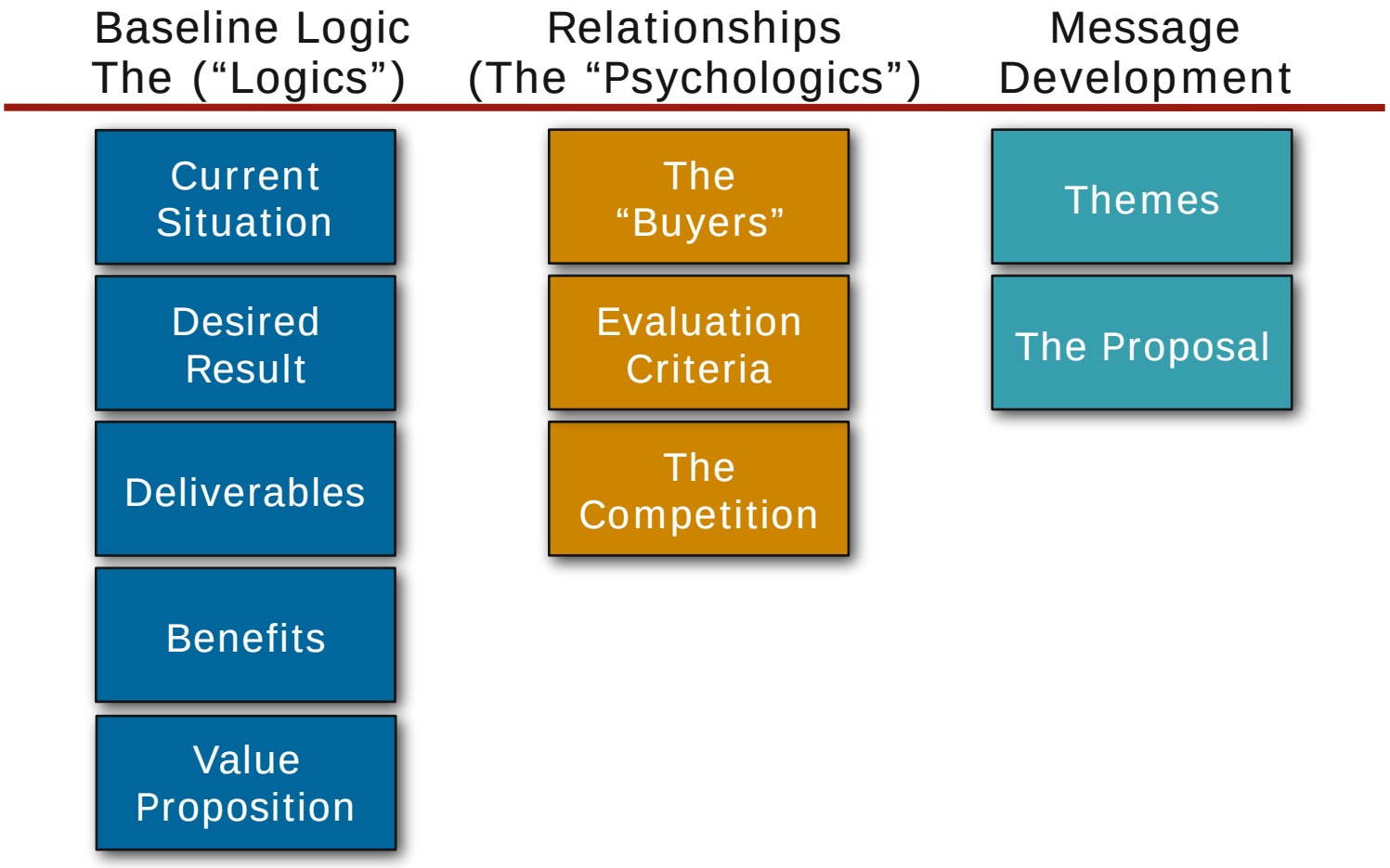
Proposal Development Process



Day 1

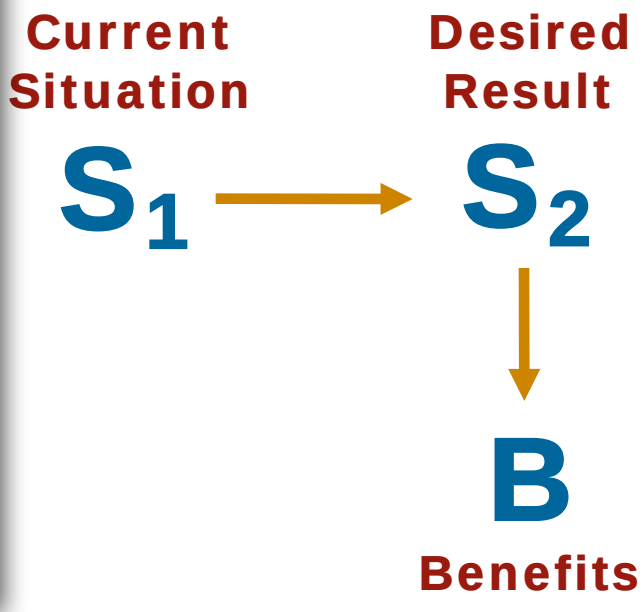
- Baseline Logic and Six Generic Slots
- Description of Needs Statement
- Description of Background/Objectives Sections

What we will cover



The Baseline Logic: The foundation for your readers' (and your) understanding of your proposal

Because of the mis-alignment between (a) the college's operating and delivery systems and (b) the needs of the college's students and employers and community it serves,…

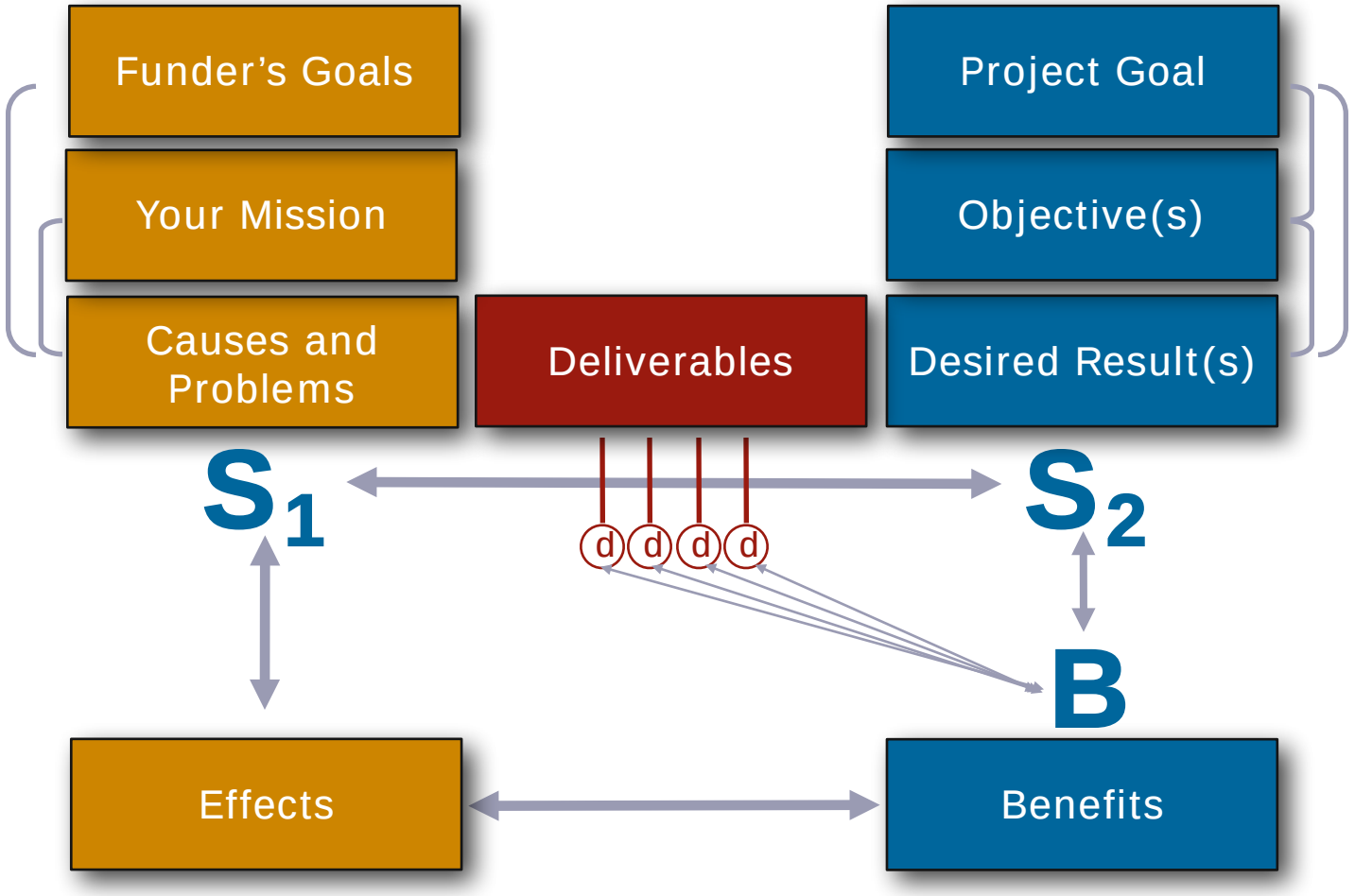


…we will develop and implement a comprehensive strategy for integrating current institutional initiatives into Engineering & Technology Division's educational offerings.

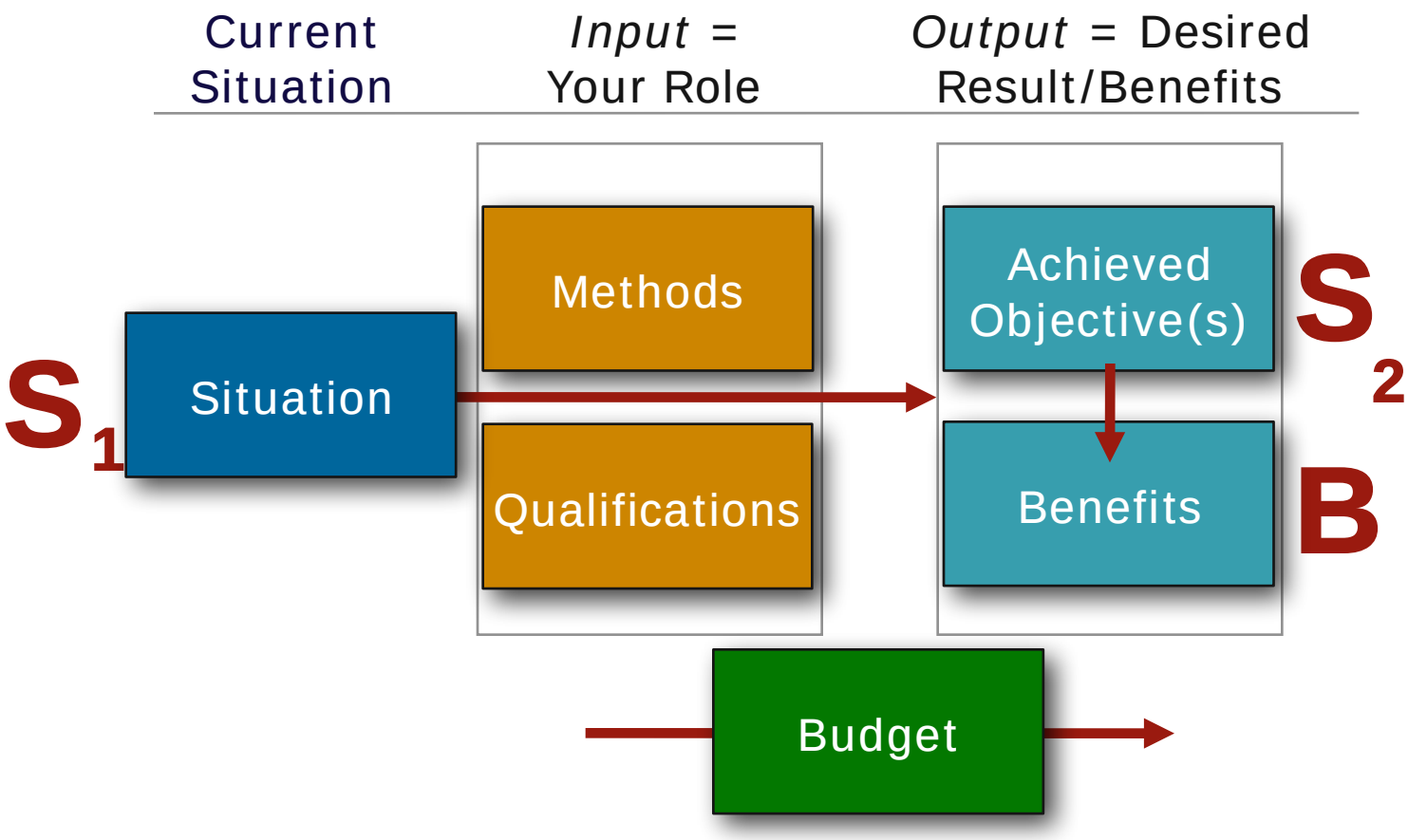
As a result, BYU will be more responsive to the rapidly changing requirements of students, employers, and the community, offering higher quality educational services in less time and at a lower cost.

90% of proposals have serious flaws in their baseline logic

Persuasive proposals have the baseline logic solidly aligned



Your proposal's content reflects the change process



The six generic structure slots answer the funder's major question

Q: *Is your project worthy of funding?*

A: Yes

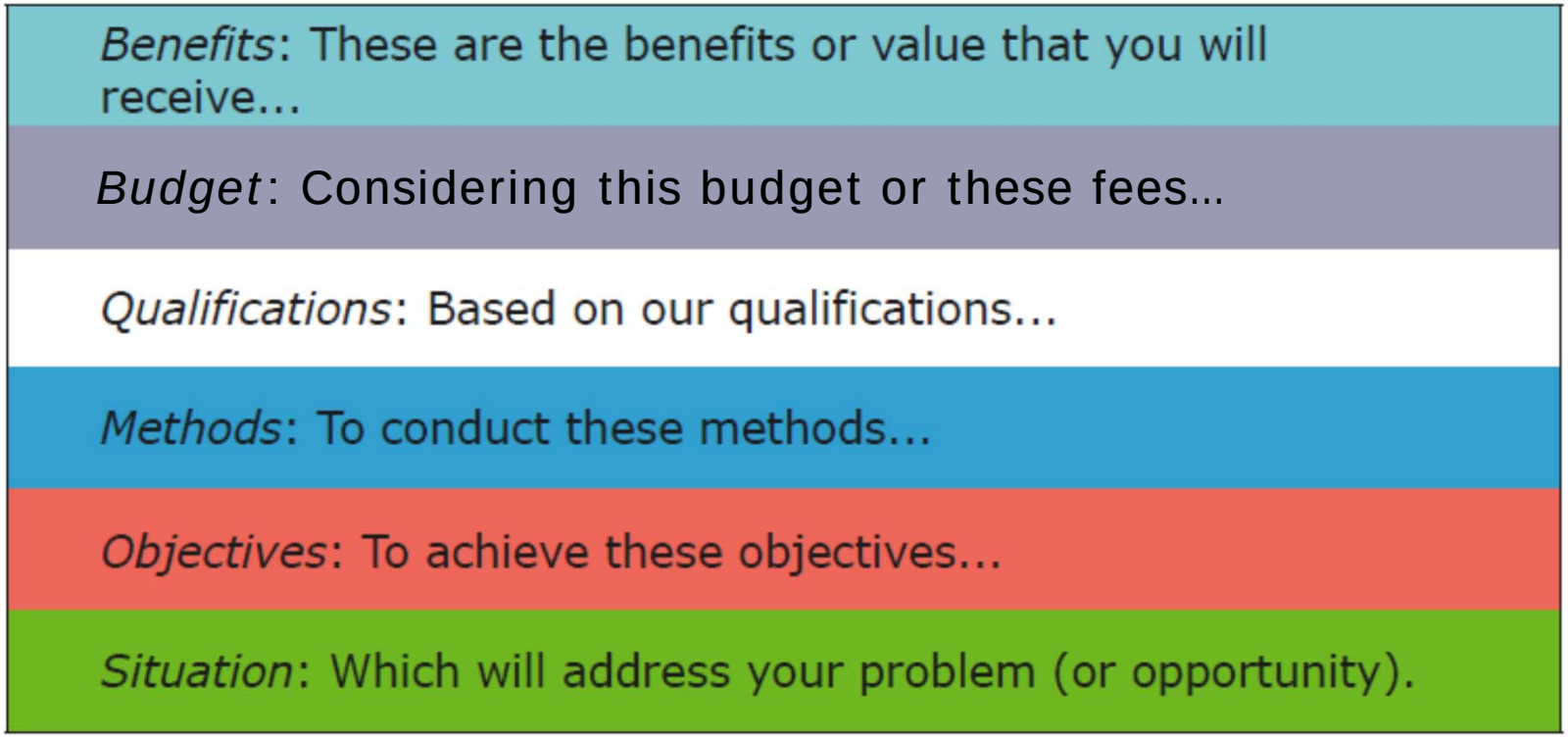
meets the requirement for success

Q: Why?

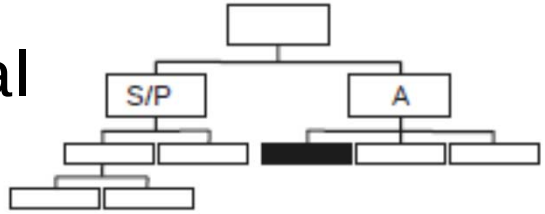
This content is reflected in the proposal's six "generic structure slots"

Situation: This is our understanding of the problem.
Objectives: Given that problem, these are our objectives for solving (or realizing) it.
Methods: Given those objectives, these are the methods we will use to achieve them.
Qualifications: Given those methods, these are our qualifications for performing them.
Budget: Given those qualifications and methods, this is how much the project will cost.
Benefits: Given our efforts and funders support, these are the benefits or value you will receive.

“Generic Structure” is not necessarily related to sequence



Generic Structure—Research Proposal



Situation: No one knows the extent of radon gas in Provo households

Objectives: To determine extent and communicate it to public

Methods: To make available and publicize availability of accurate, inexpensive testing devices; to analyze results

Qualifications: Distinguished inter-disciplinary university research team; necessary facilities

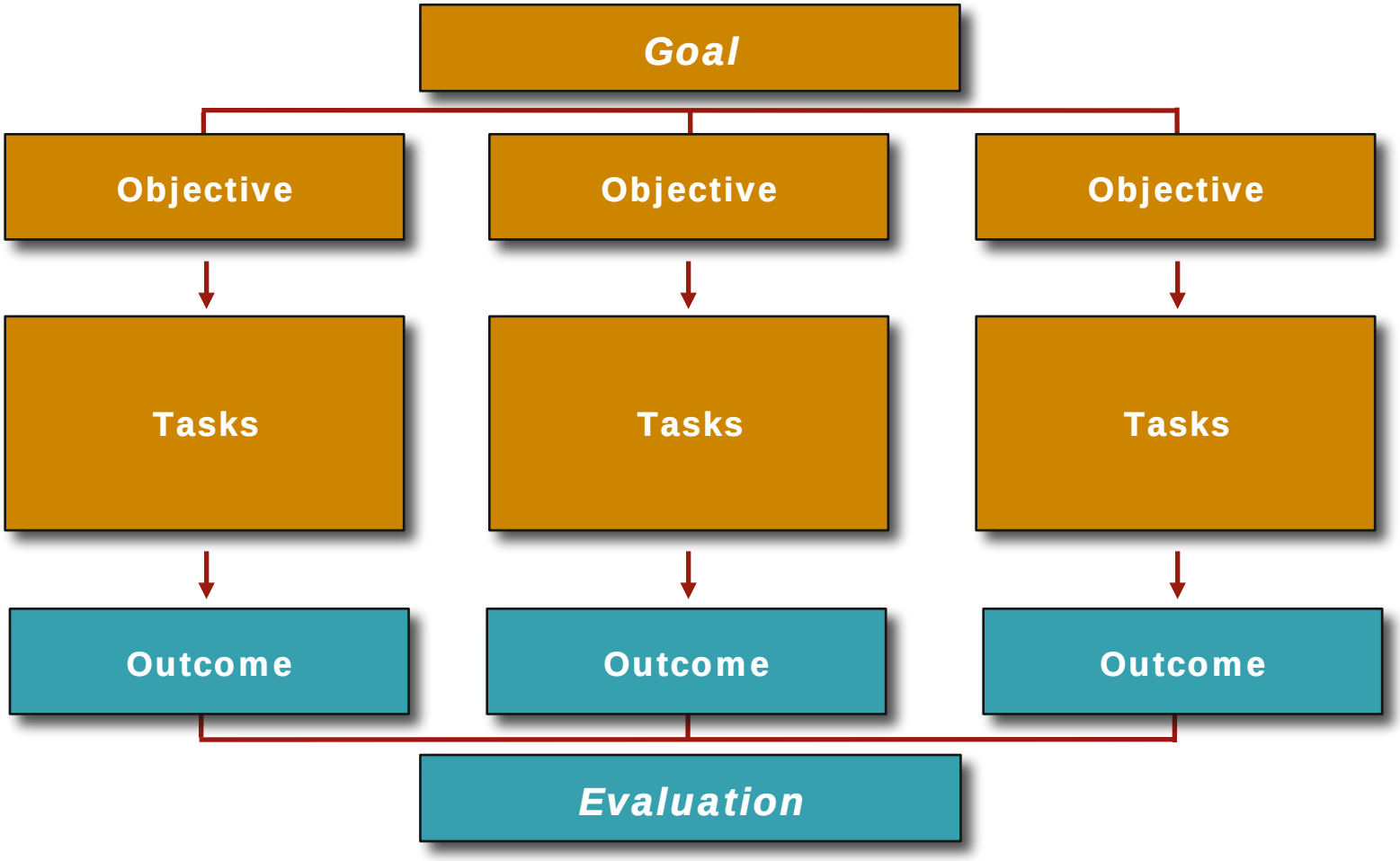
Budget: Costs $$$

Benefits: Increased understanding of radon extent: a 1st step in recommending remedial actions

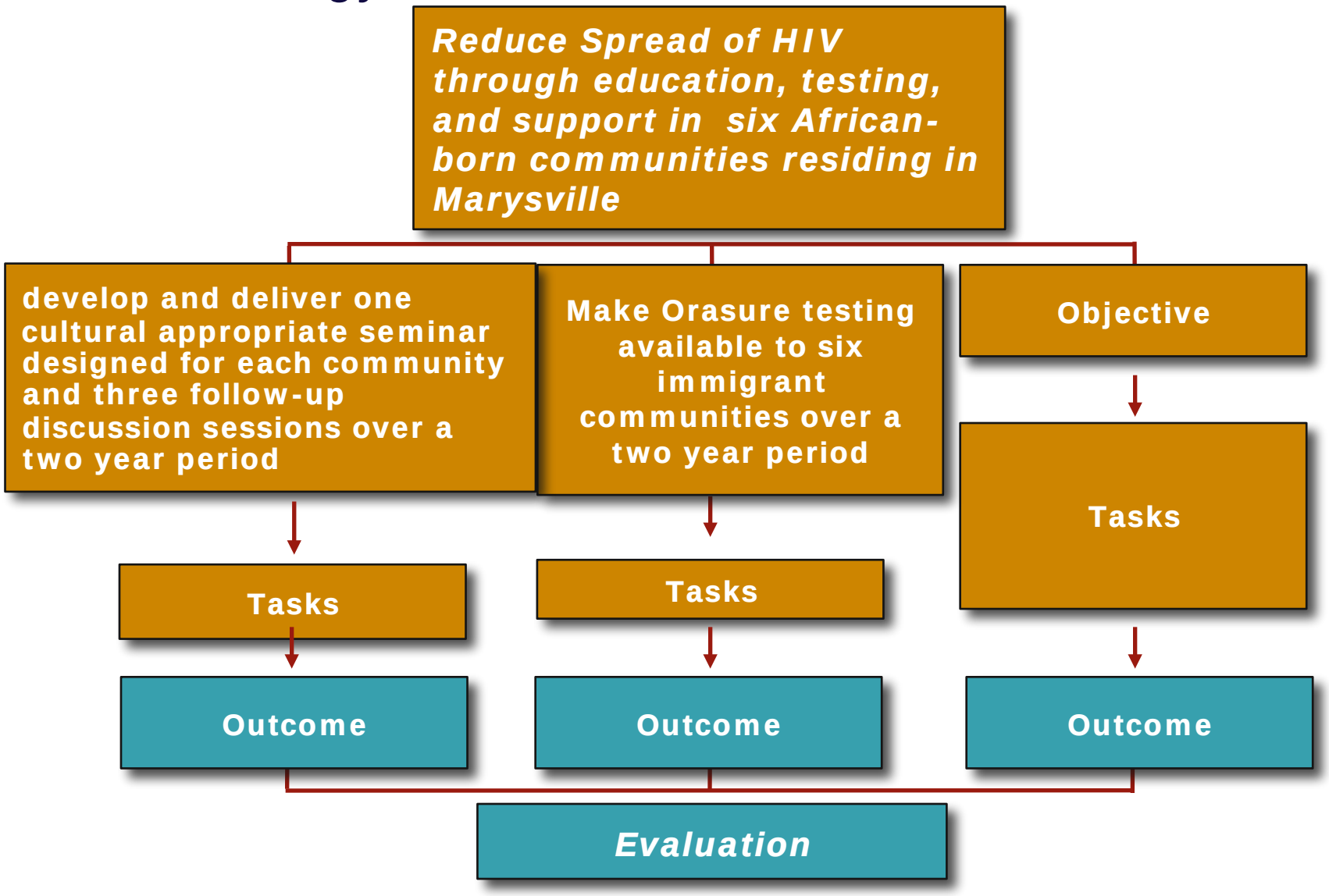
The needs statement can have three components

Component	
1. Story / S_1	Describe the problem: (1) context of the problem, (2) justification for addressing the problem, (3) specific aspect of problem being addressed. (Causes and Effects) Statistics: -Your own data -Info from external sources Examples: -Anecdotes -Real-life examples -Quotes Give the reader hope!
2. Plan for solving S_1	Method section contains the approach taken to solve the problem and list of activities/tasks.
3. Request for support	The instrumental purpose statement contains actions you want the sponsor to take immediately and resources you want the sponsor to commit.

Methodology: goals, objectives, and tasks



Methodology



Be certain that your Story Component tells a story

Which opening do you like better. . .

Mercy is a 200-bed hospital in Chicago, Illinois.

As Mercy grew to become a 200-bed hospital, its business objectives began to change.

. . . and why?

Persuasion goes in the 1st and 3rd slots; information, in the middle

Good Reason	"Because of a rise in infant mortality rates **P**	Opening P–Slot: Explains ***Why***
Action	we will.. **I**	I–Slot: Explains ***How***
Result/ Benefit	By having… **P**	Closing P–Slot: Explains ***What*** Results)

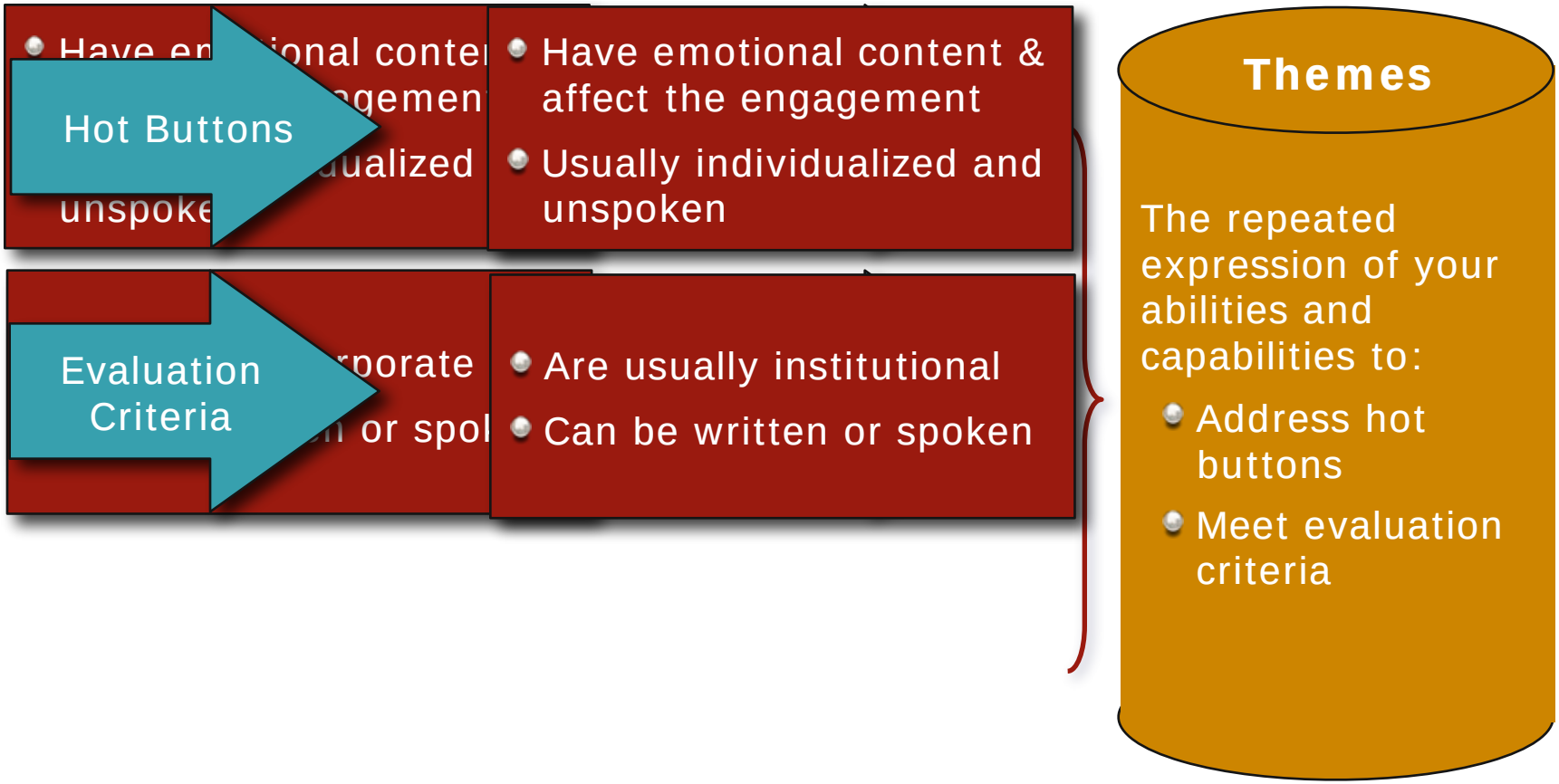
What themes are

Themes Are . . .

The
Highlighted
Essential
Messages that
Express the character of their
Story

Themes are a web of persuasion, a system of threads that weave, communicate, and align your messages with the PC's desires

Where themes come from



Psychologics Worksheet: Themes

"What repeated messages best characterize the funder's story and/or differentiate you?"	
	Themes Come From Hot Buttons, Evaluation Criteria
1	
2	
3	
4	
5	

Day 2

- Methods Slot
- Qualifications Slot
- Faculty Panel

Composing the methods slot

- ***Situation***: This is our understanding of your problem (or opportunity).
- ***Objectives***: Given that problem (or opportunity), these are our objectives for solving (or realizing) it.
- ***Methods***: Given those objectives, these are the methods we will use to achieve them.
- ***Qualifications***: Given those methods, these are our qualifications for performing them.
- ***Fees***: Given those qualifications and methods, this is how much you should plan to invest.

Benefits: Given our efforts and your investment, these are the benefits or value that you will receive (ROCI).

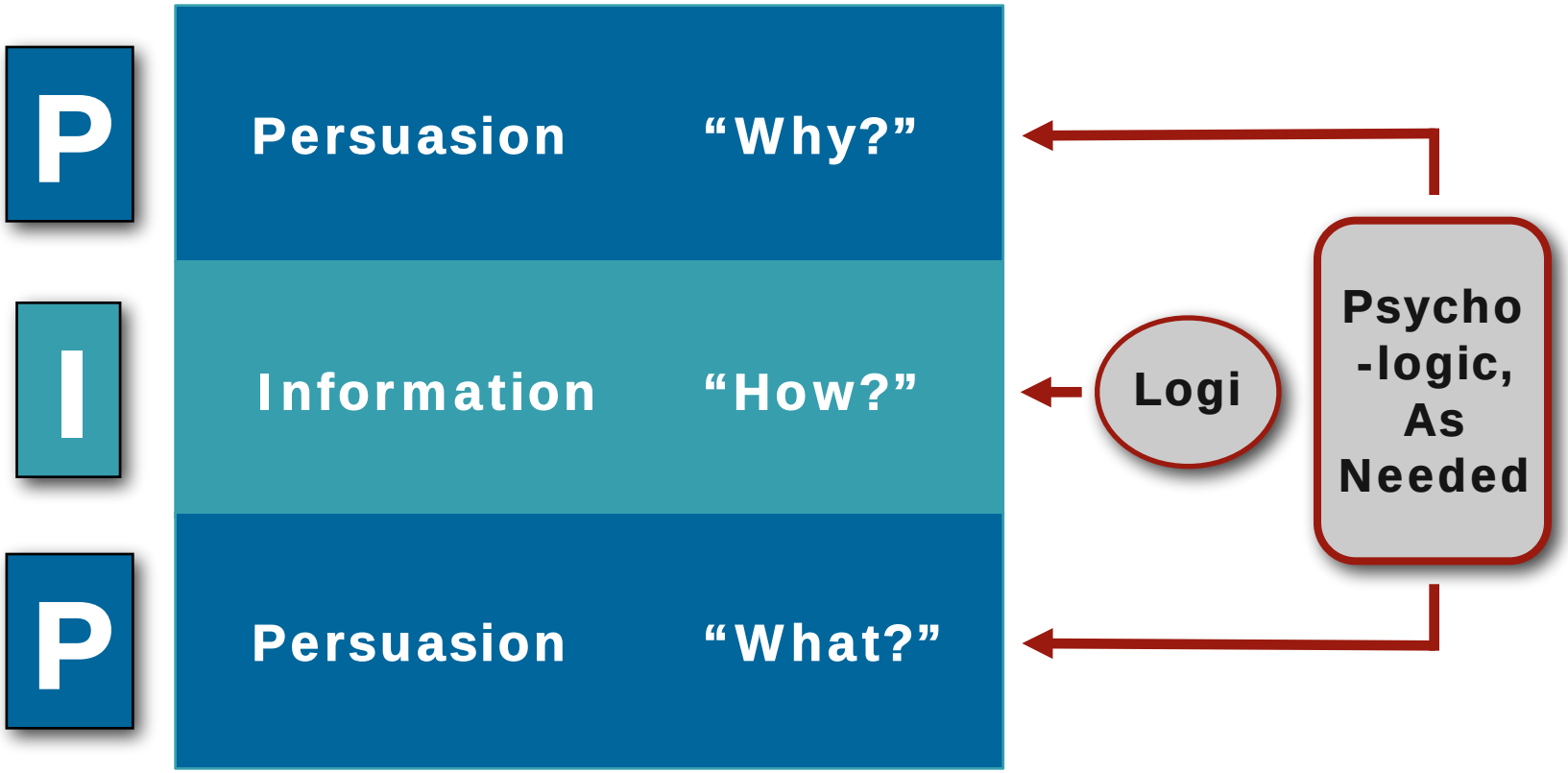
Consider this scenario:

Two of the funders' hot buttons are "rigor" and "thoroughness"

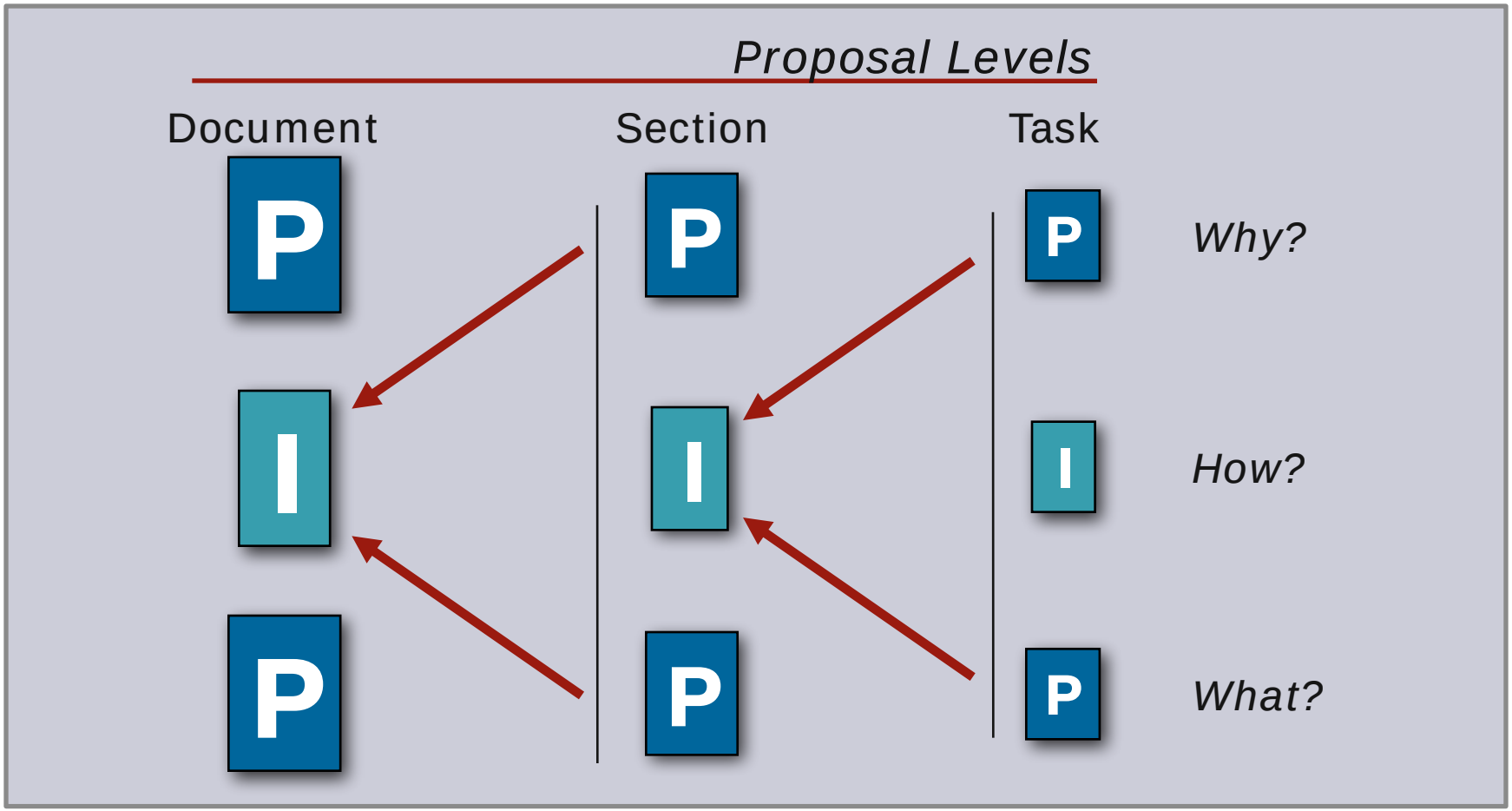
PIP at the task level

Task 5: Develop A Plan To Implement The Selected Option	
I-Slot: ("How?")	• Define the tasks necessary to implement the selected option • Define the necessary resources and responsibilities • Develop a critical path required to complete all tasks

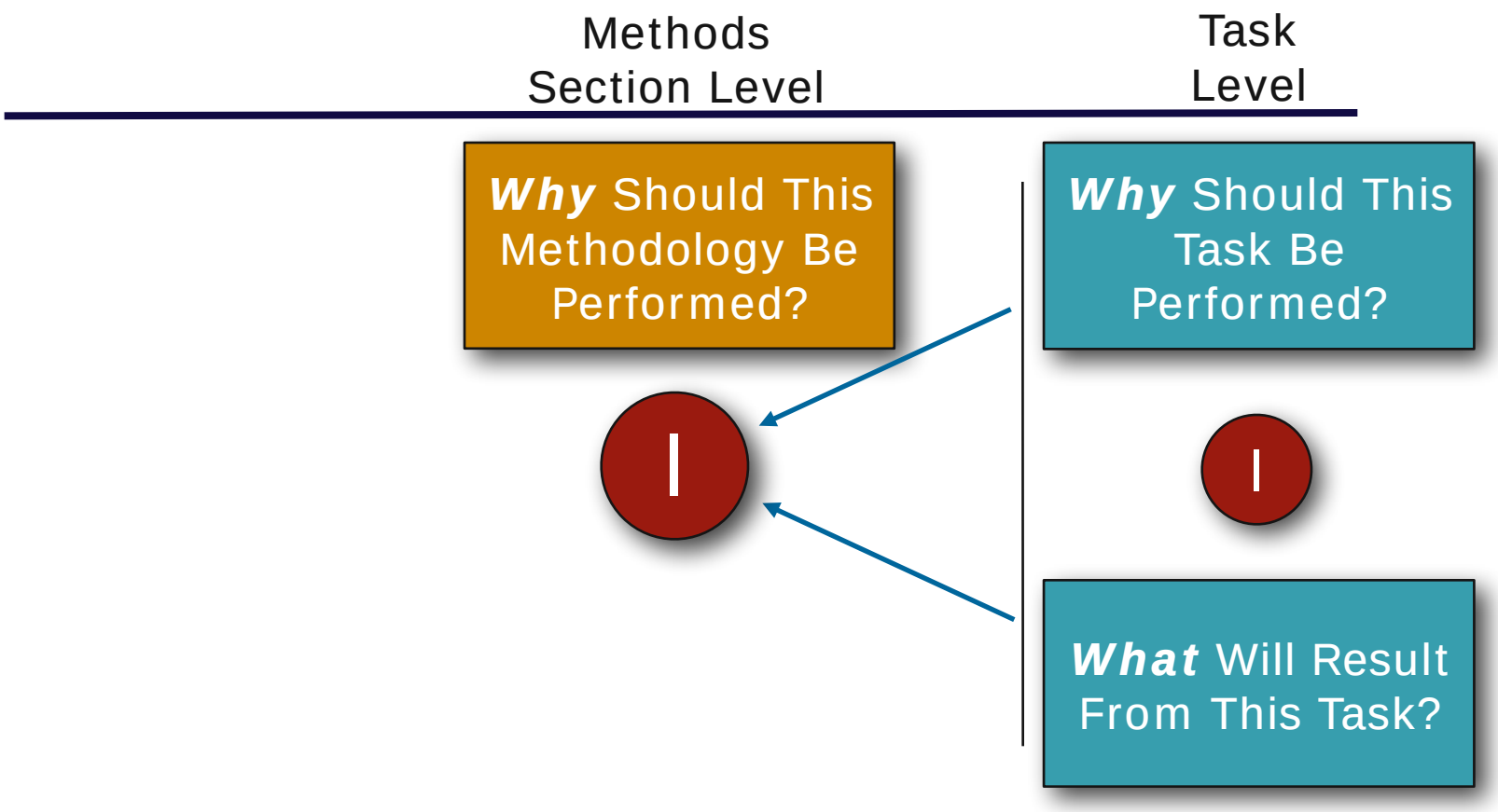
The information (I-Slot) is necessary but not always sufficient



PIP works on several levels



Each P–Slot answers a specific question at each level



Lacking persuasion, methods sections often begin by explaining “How” rather than “Why”

They begin by forecasting information...

“Our methodology incorporates the four high-level steps described below”

“We will organize the work into five tasks”

They don’t begin by forecasting persuasion...

“We have designed our methodology for the following three reasons:”

“Our methodology carefully considers the situation in these three ways:”

Why, out of a universe of possible methodologies, have you chosen *this* one, for *this* situation?

To create the opening P-Slot of “Approach and Methods,” use Situation and Methods columns

Approach and Methods

We have designed our approach for three important reasons:

- Because [of something in the current situation], we will need [something related to this theme]. Therefore, we will [do something related to that theme].
- Because [of something in the current situation], we will need [something related to this theme]. Therefore, we will [do something related to that theme].
- Because [of something in the current situation], we need [something related to this theme]. Therefore, we will [do something related to that theme].

Specifically, our methods include the following major tasks:

THEMES DEVELOPMENT WORKSHEET

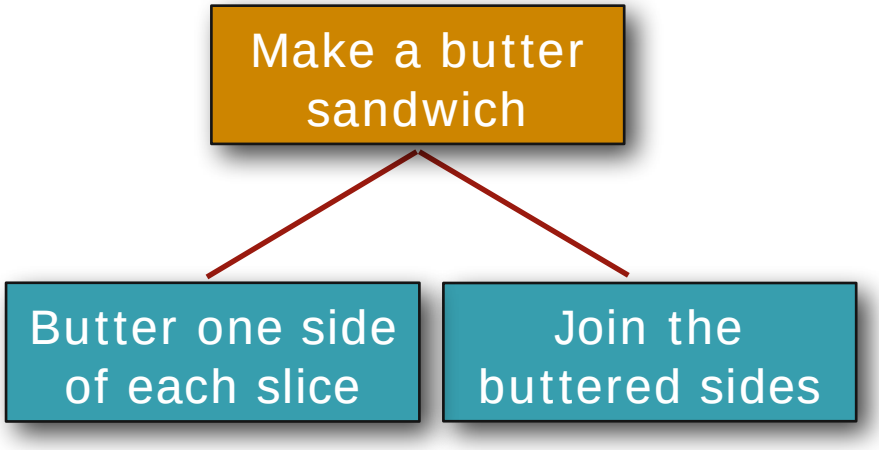
Theme	Sit.	Meth.	Quals.	Benes
1	Because..., you need...	There-fore, we will...		
2	Because..., you need...	There-fore, we will...		
3	Because..., you need...	There-fore, we will...		

Chosen from funders’ hot buttons, funders eval. crit.

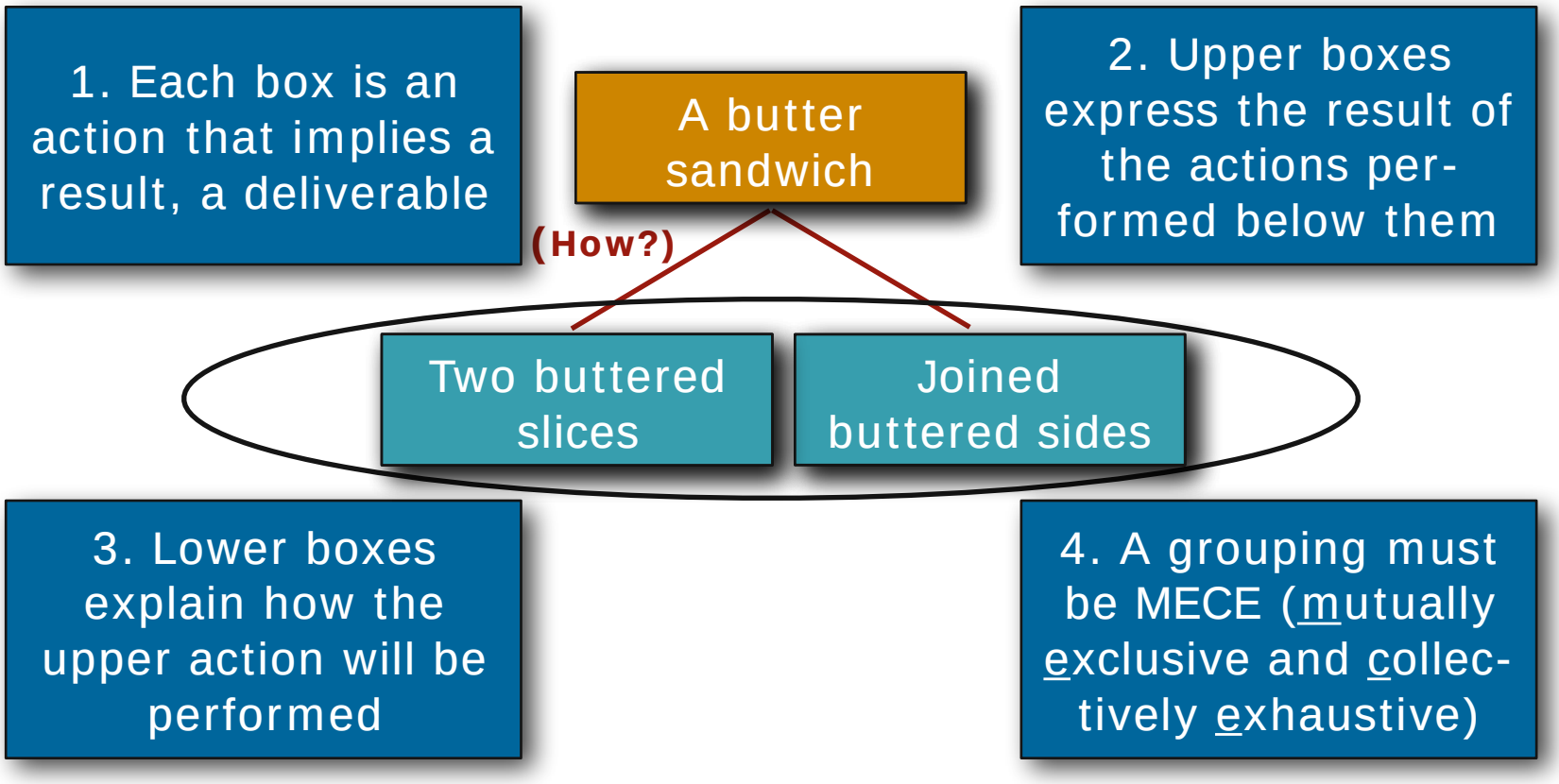
The methods slot

- COMPOSING THE INTRODUCTION
- **COMPOSING THE BODY**

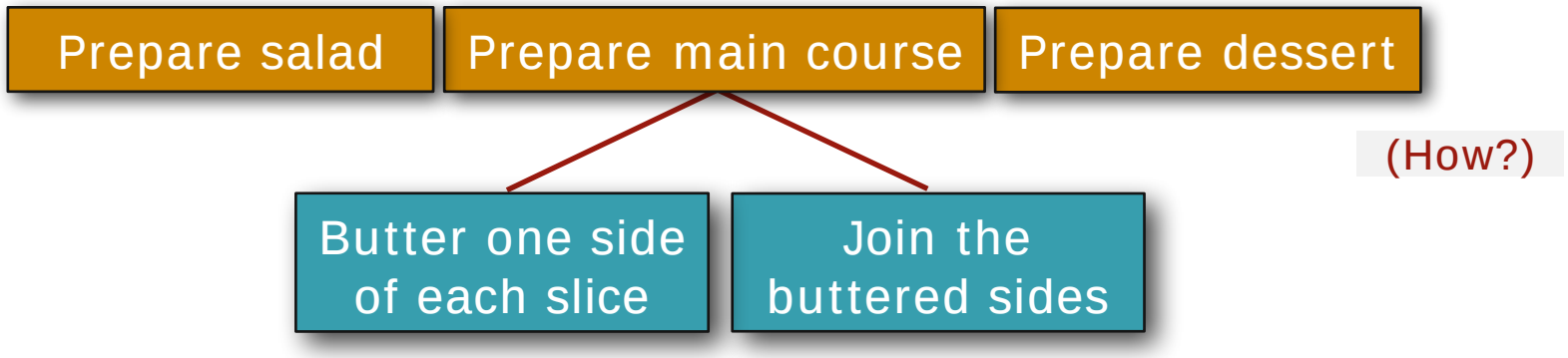
Why would you perform these two actions?



“How” logic trees express four principles

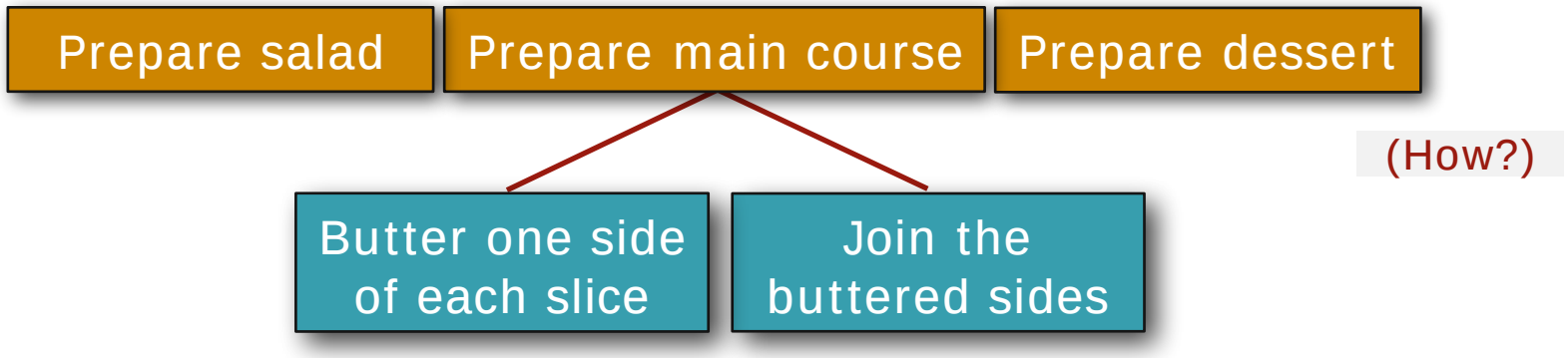


Let’s assume your butter sandwich is the main course of a three-course meal

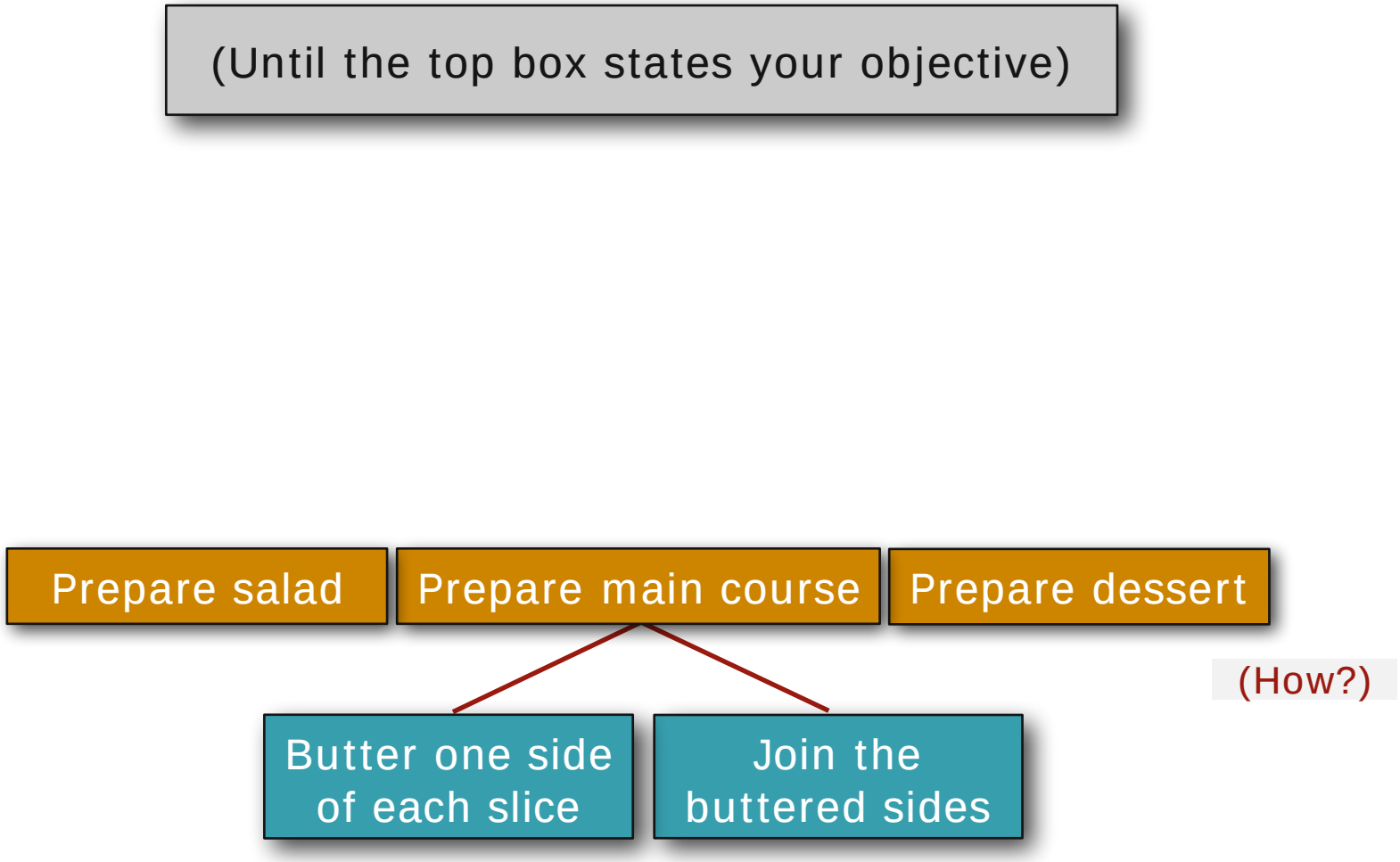


How far *down* do you build?

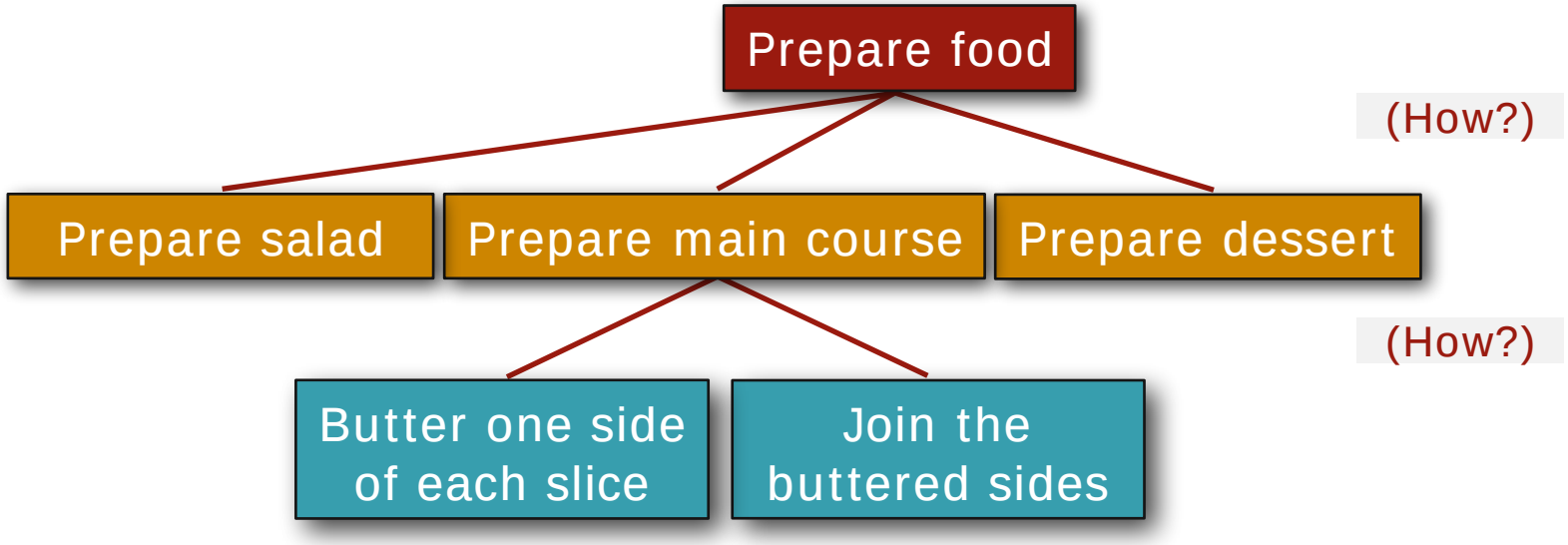
(Until your audience stops asking “How?”)



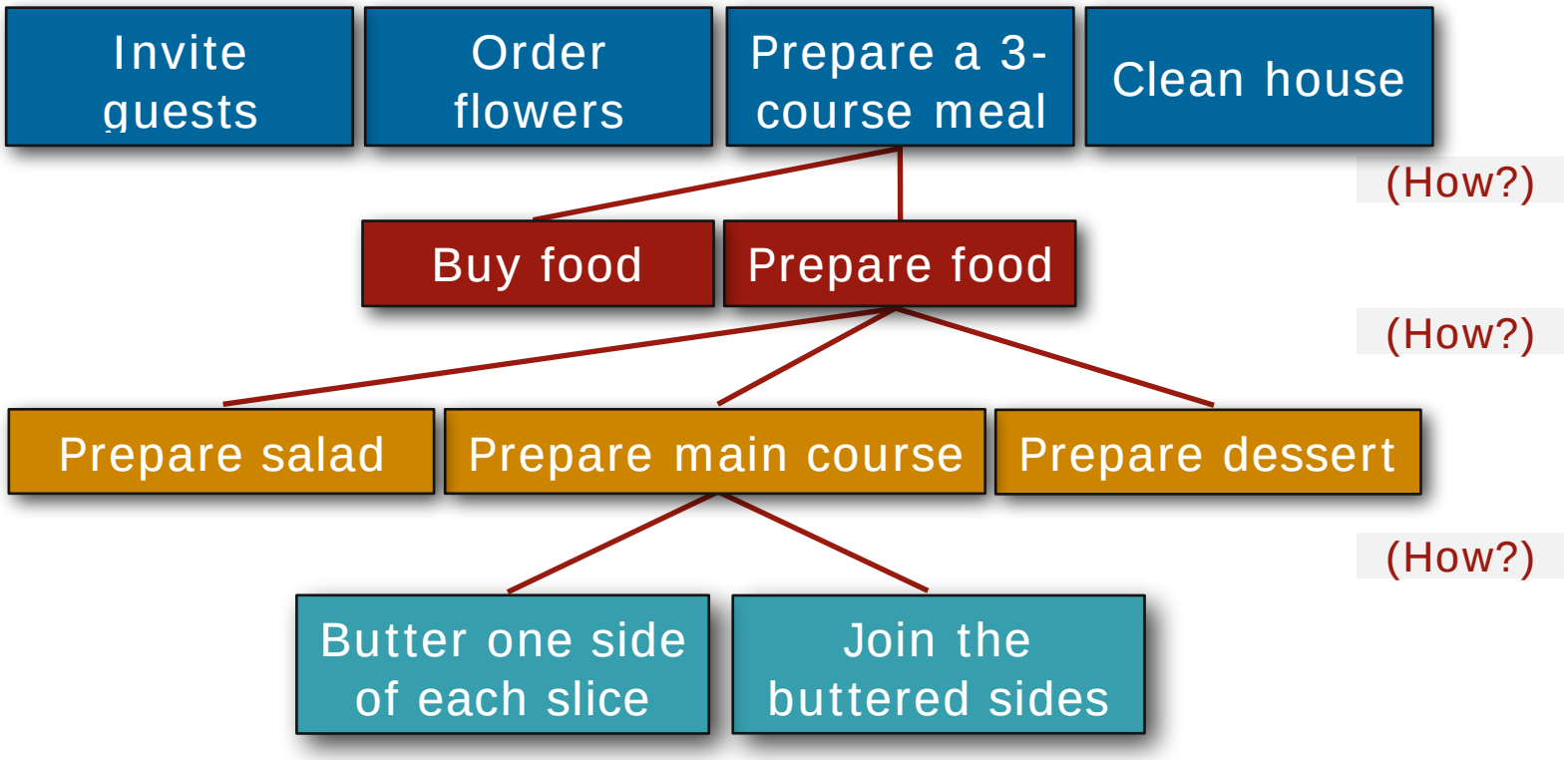
How far *up* do you build?



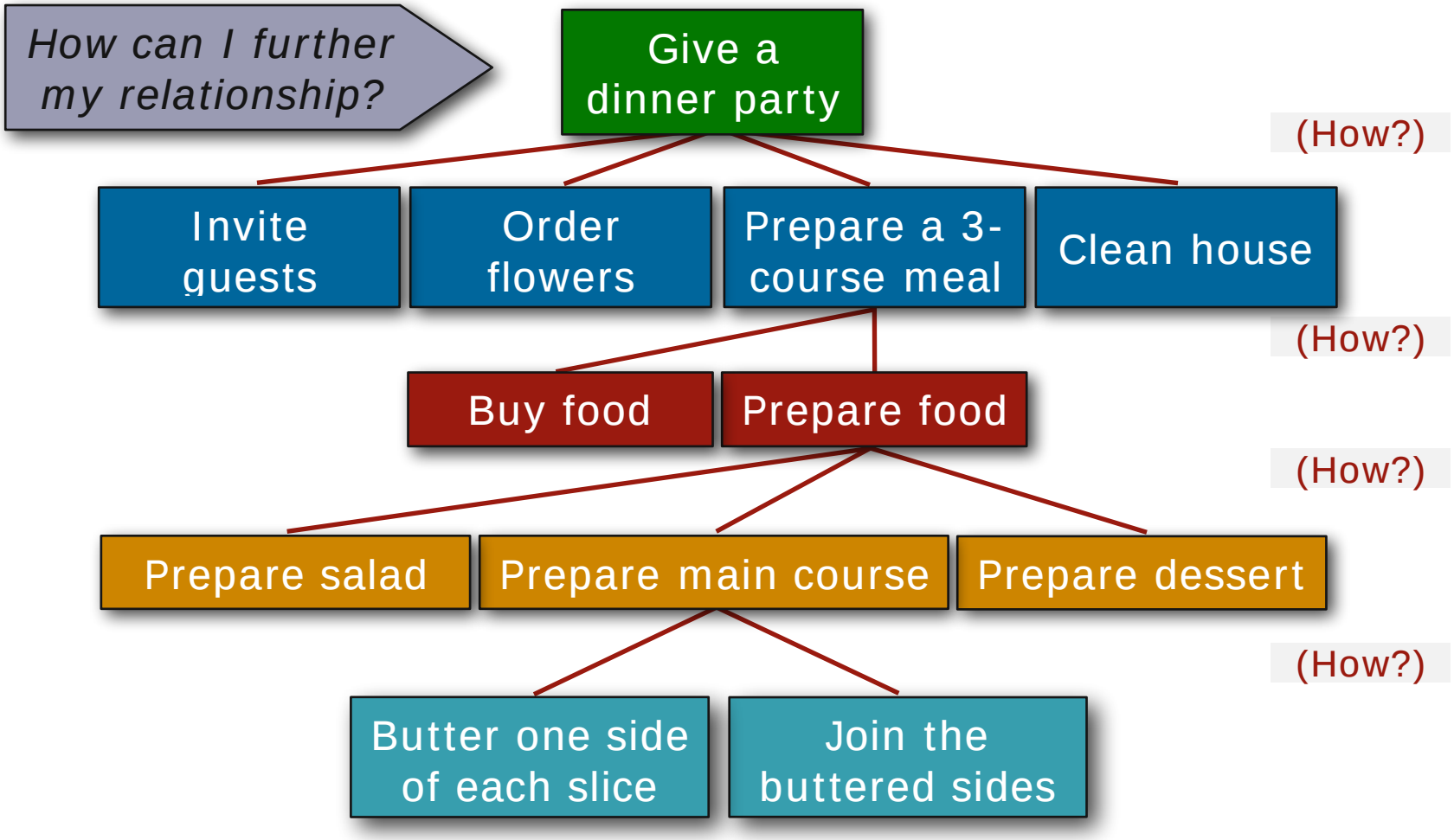
(We're building...)



(...and building)

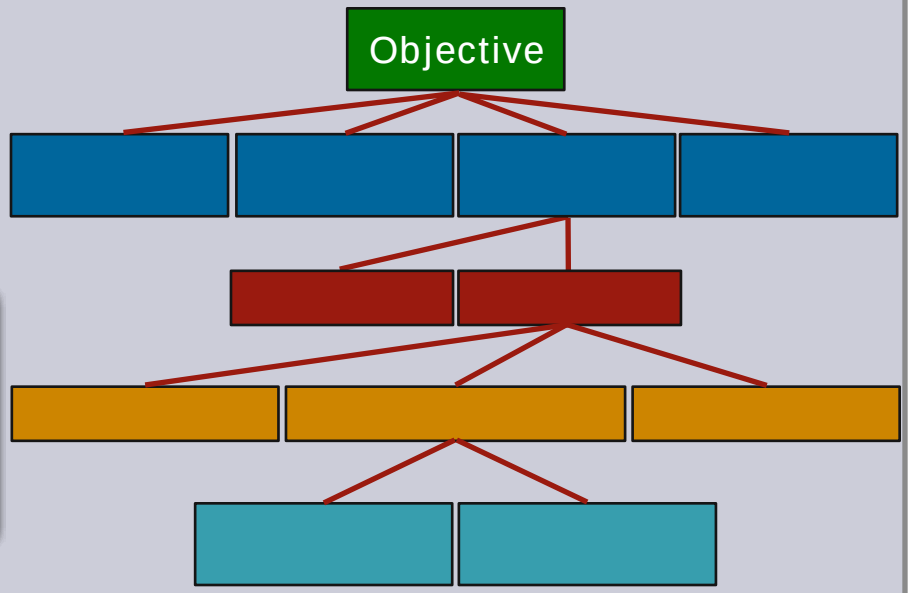


Your objective is the answer to the audience's overriding question

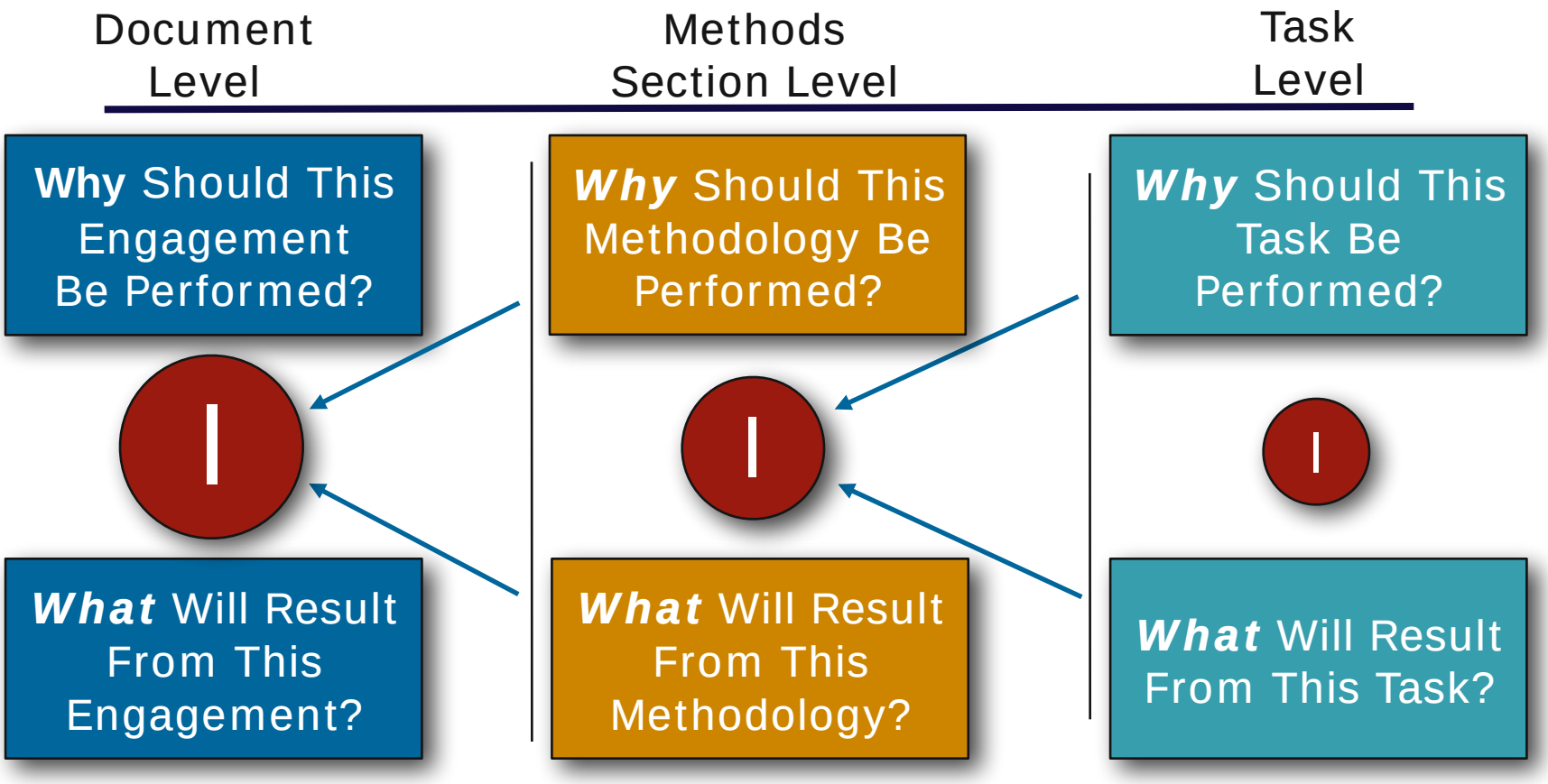


Every task, on every level, contributes to achieving the objective

That blue task, together with the other three on its level, produces the objective.



Each P–Slot answers a specific question at each level



Composing the qualifications slot

- ***Situation***: This is our understanding of your problem (or opportunity).
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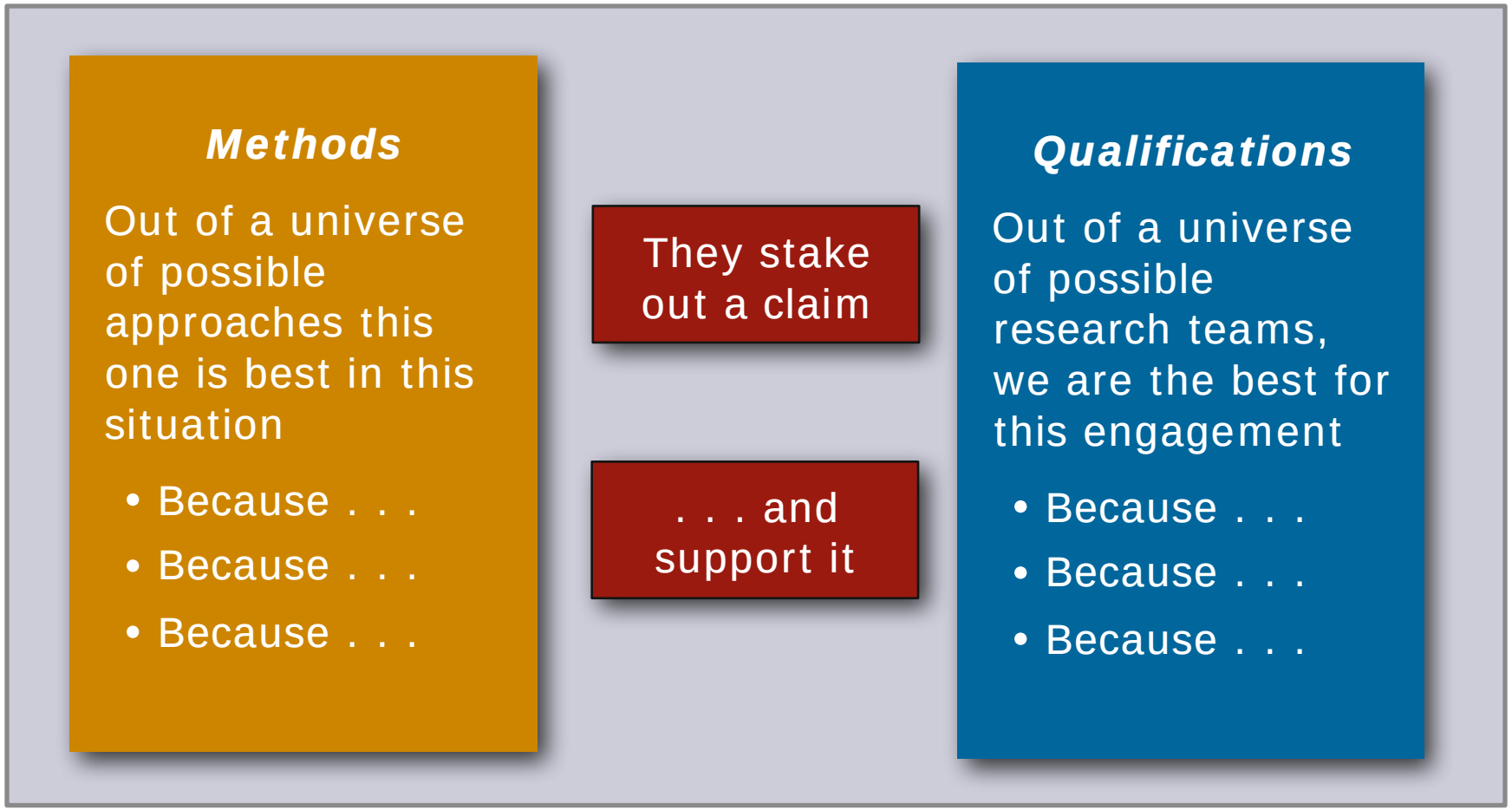
Benefits: Given our efforts and your investment, these are the benefits or value that you will receive (ROCI).

The Methods and Qualifications Slots are arguments



The Qualifications Slot answers “Why?” by providing good reasons

Creating the major claims for the qualifications section

THEMES

Theme	Quals.
1	We are...
2	We have...
3	We can...

Why [Your Team]

We are especially qualified for this project for these reasons:

We are...

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We have...

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We can...

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Faculty Panel Discussion on Tips for Proposal Writing (notes at the end)

Day 3

- Budget Section (no charts; discussed)
- Benefits Sections
- Proposal Slots Mapped to Proposal
- Rhetorical Voice (not briefed)

Composing the Budget Slot

- ***Situation***: This is our understanding of the problem.
- ***Objectives***: Given that problem, these are our objectives for solving (or realizing) it.
- ***Methods***: Given those objectives, these are the methods we will use to achieve them.
- ***Qualifications***: Given those methods, these are our qualifications for performing them.
- ***Budget***: Given those qualifications and methods, this is how much the project will cost.
- ***Benefits***: Given our efforts and funders support, these are the benefits or value you will receive.

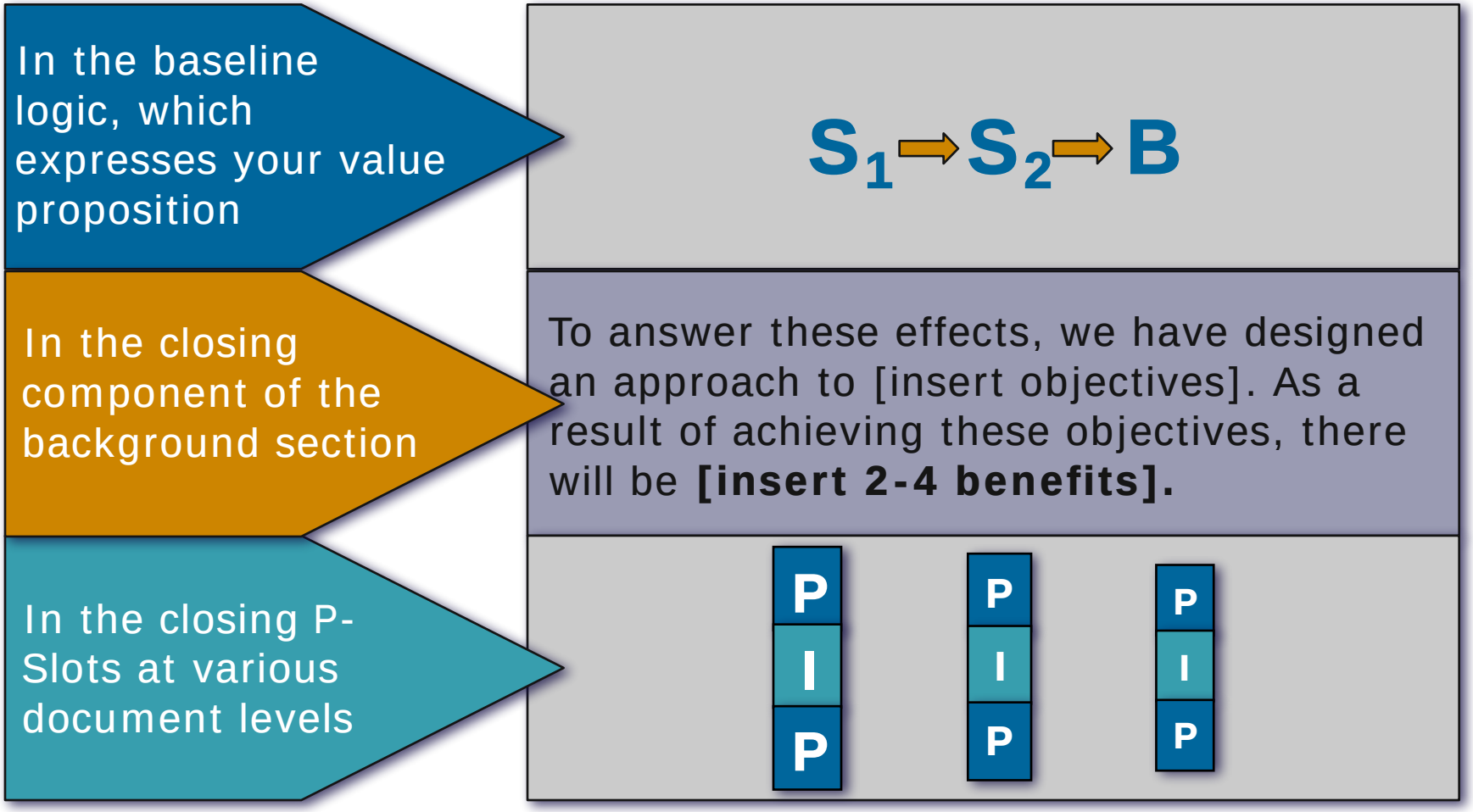
Composing the benefits slot

- ***Situation***: This is our understanding of your problem (or opportunity).
- ***Objectives***: Given that problem (or opportunity), these are our objectives for solving (or realizing) it.
- ***Methods***: Given those objectives, these are the methods we will use to achieve them.
- ***Qualifications***: Given those methods, these are our qualifications for performing them.
- ***Fees***: Given those qualifications and methods, this is how much you should plan to invest.

Benefits: Given our efforts and your investment, these are the benefits or value that you should expect.

Benefits are important to a potential Funder	Yes ❒ No ❒
Funders buy if they perceive that there will substantial benefits to real people	Yes ❒ No ❒
Funders might select one project over another because one communicates benefits more effectively	Yes ❒ No ❒

The benefits slot exists throughout the proposal

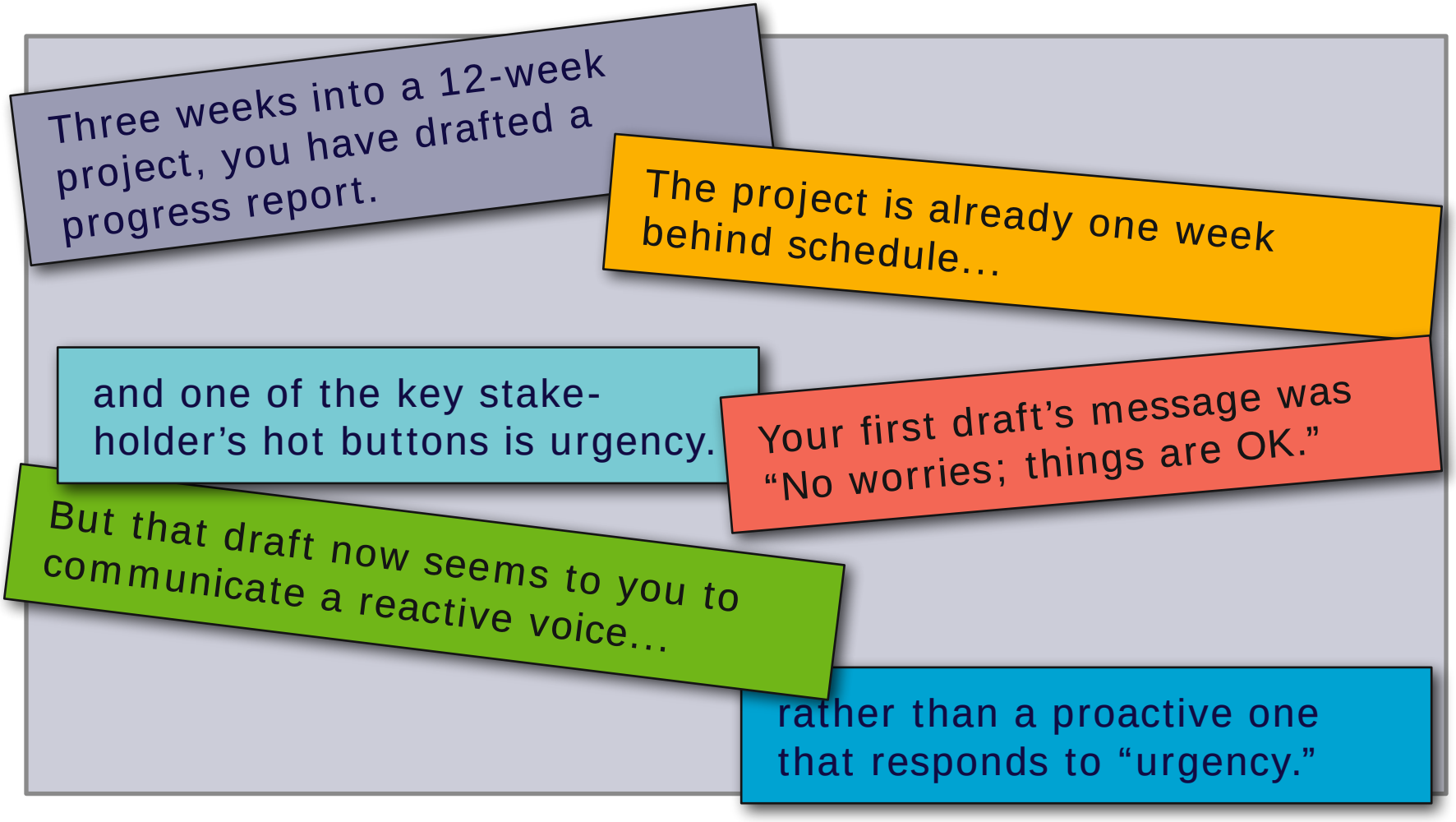


Rhetorical voice

HOW WILL YOUR CHARACTER AND CHARACTERISTICS DISPLAYED DURING THE REVIEW PROCESS “SPEAK” THROUGH YOUR DOCUMENT WHEN YOU ARE NO LONGER PRESENT?

- WHAT CHARACTER WILL YOUR PLAY (WHAT PERSONA WILL YOU PROJECT) DURING THE DRAMA OF SELLING?
- HOW DO YOU WANT YOU AND THE PURSUIT TEAM TO BE PERCEIVED?

Consider this scenario:

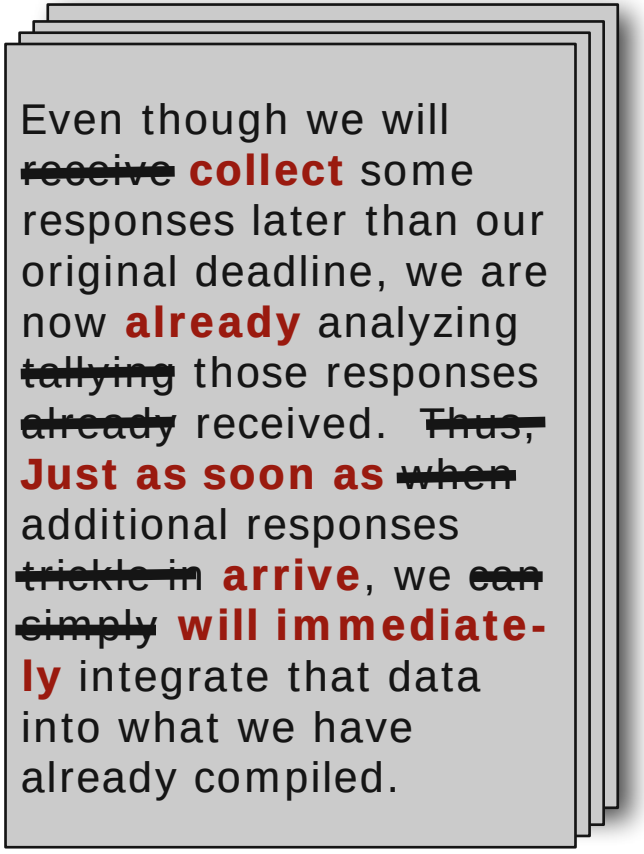


Here is a paragraph from that first draft

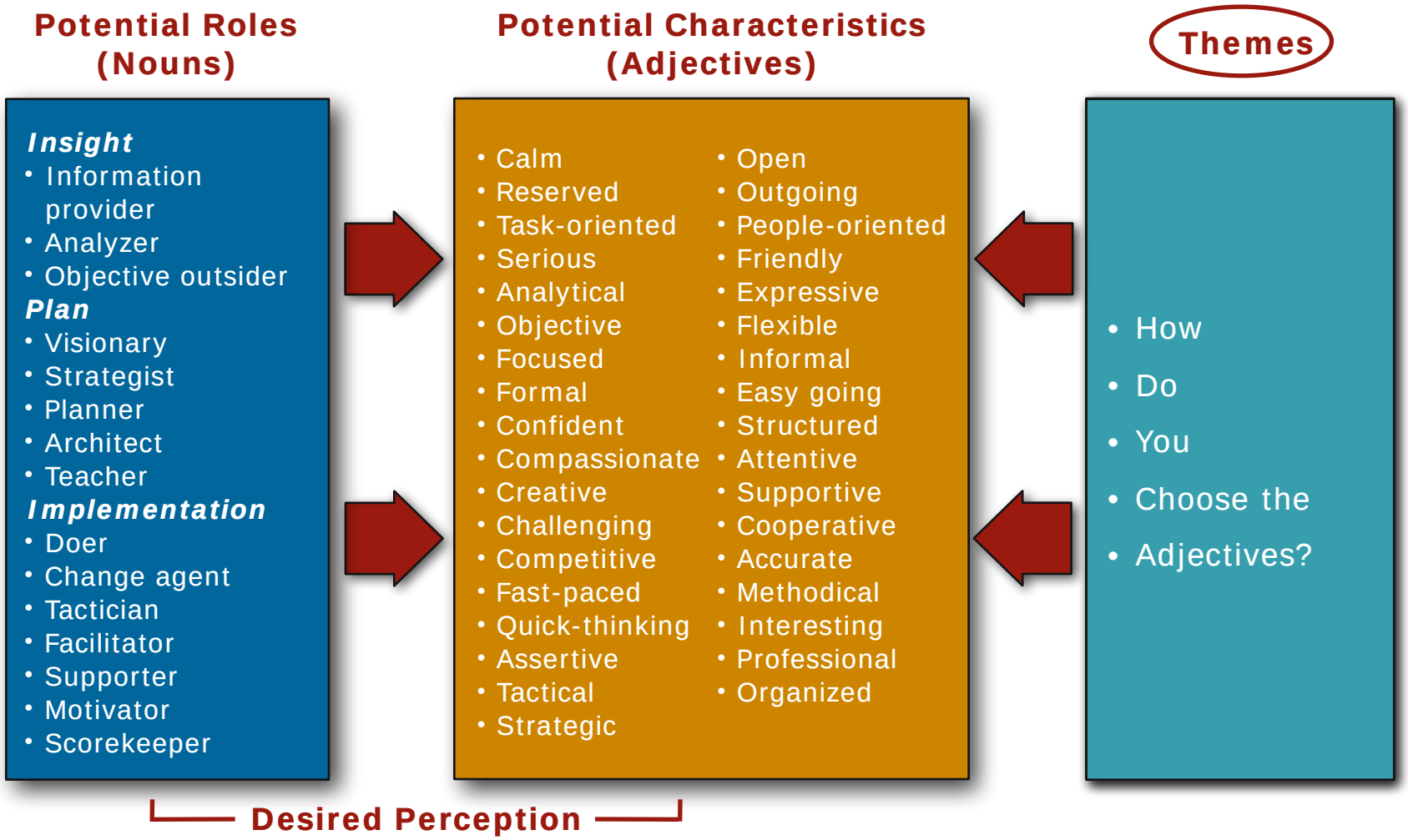
Even though we will receive some responses later than our original deadline, we are now tallying those responses already received. Thus, when additional responses trickle in, we can simply integrate that data into what we have already compiled.

How would you change the “voice” from reactive to proactive?

Doesn’t this writer sound more proactive?



How do you construct your voice, your persona, the desired perception of you and your team?

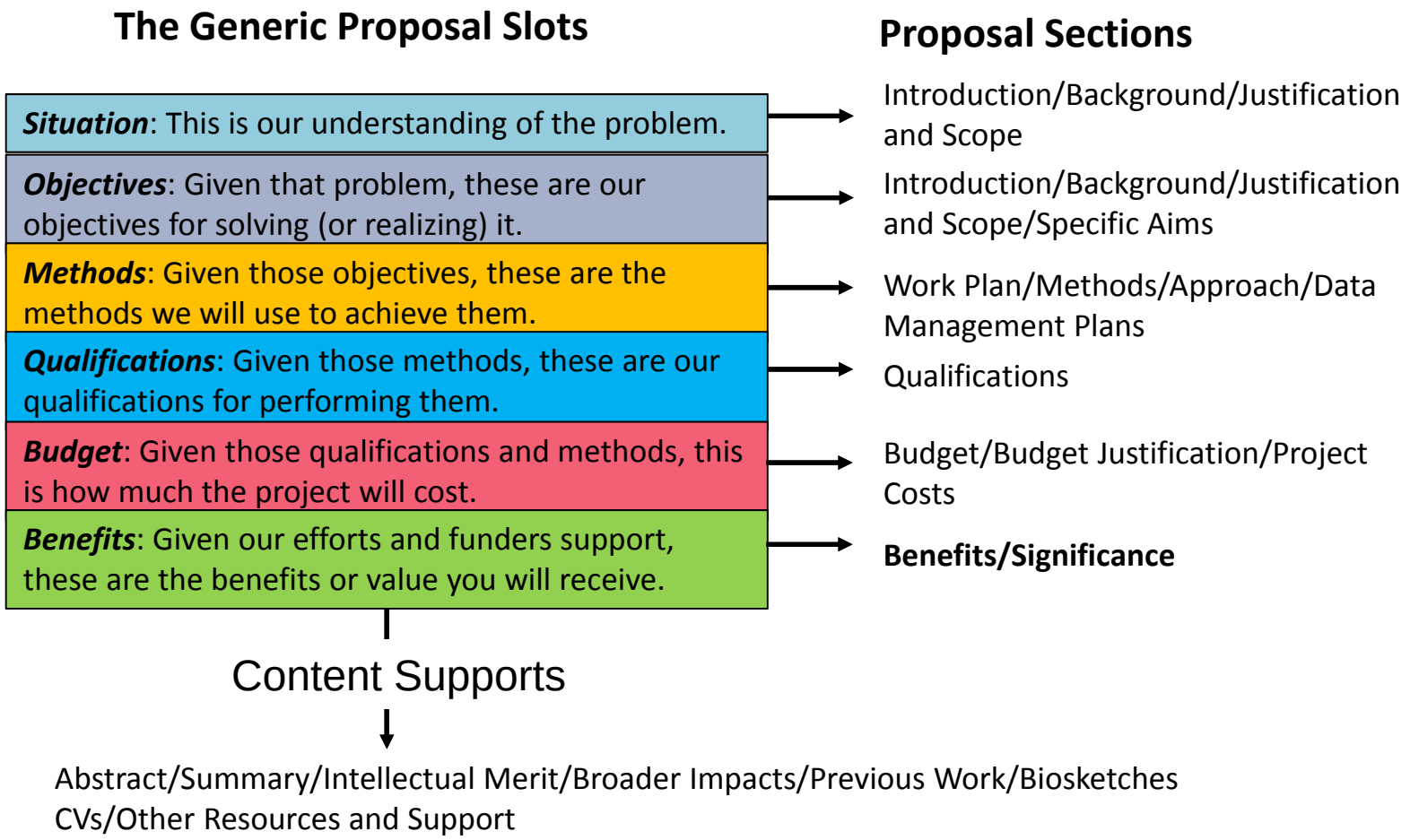


Day 4

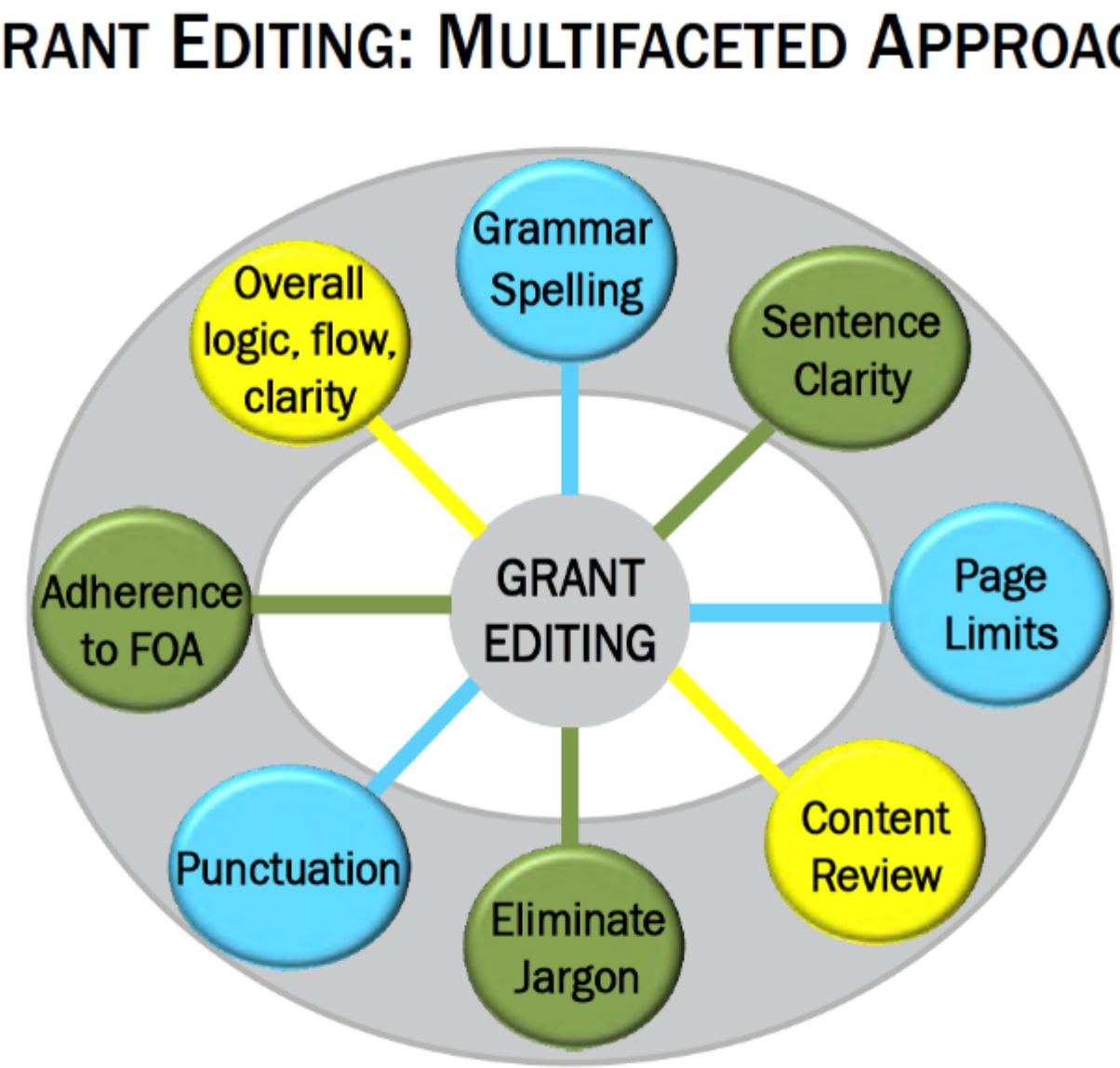
- Summary of Writing – Mapping Proposal Slots to Proposal Sections
- Editing and Rewriting
- Writing for Reviewers
- Marketing
- Bootcamp Wrap Up
- “Extended” bootcamp

Summary - Mapping the Proposal Slots to Proposal Sections

- The **generic proposal slots** provide **the baseline logic** that is the highest–level summary of your entire proposal and under girds the structure of your proposal
- The content of the generic slots either maps directly to proposal sections or provides content to support proposal sections



Editing and Rewriting



Project Summary #1: The Basketball Project at the Meridian Mews Center

We are really excited about the Basketball Project for 25 boys ages 13 to 16 who live in North Meridian Mews. The program will be sponsored by our organization, the Meridian Mews Center. This Center's neighborhood is downtown Metro City, Indiana. The kids who will take part in the project are badly behaved and have acted out in school. Well-qualified instructors will teach the kids basketball skills and also how to dress for success. They will receive different types of counseling also and gift certificates from Ace Sport Supplies will be given out to the kids on the winning team in the basketball competition.

The Basketball Project will take place after school and on weekends and the boys will behave better as a result of being in the program. The Basketball Project will run from September 1, 2016 to June 30, 2017, and activities will be held at the Meridian Mews Center and the YMCA. We are asking for $10,000 to help cover the expenses for this excellent program that we're running with the help of Meridian University and the YMCA.

There are many staff members who will make sure the kids get solid instruction. We are hoping that the kids who join our project will stay in school longer and behave much better. They will probably enjoy the trips we'll take to basketball games and we're looking forward to having guest speakers.

From "The Only Grant Writing Book You'll Ever Need" by Ellen Karsh and Arlen Sue Fox

Editing and Rewriting

Do

- [ ] Write as you *should* speak
- [ ] Present strong credentials, facts, and statistics
- [ ] Use a grammar book, thesaurus, and dictionary
- [ ] Use the active voice
- [ ] Back up your claims

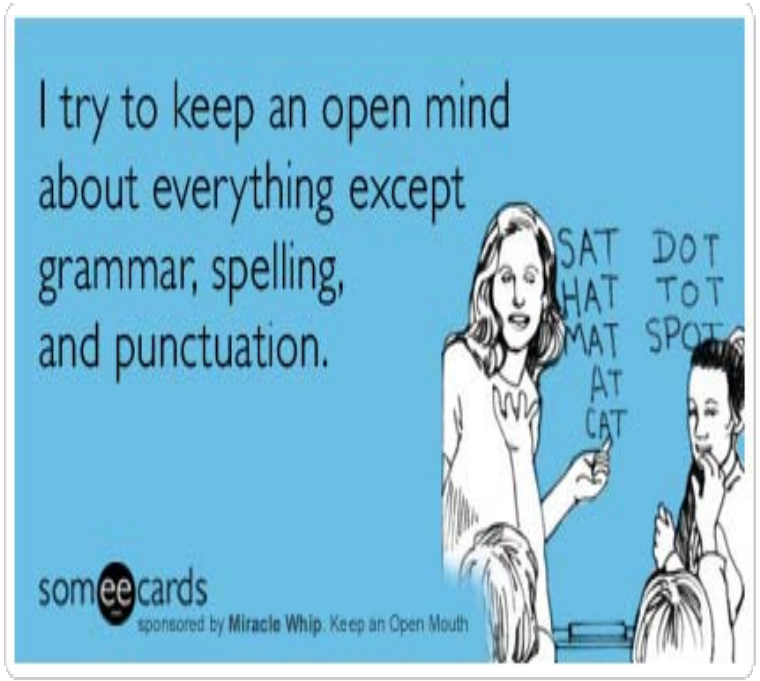
Don’t

- [ ] Use slang or imprecise or insensitive language
- [ ] Don’t exaggerate
- [ ] Include value judgments, political views, or a sense of humor
- [ ] Use too many adjectives
- [ ] Use too many abbreviations or acronyms

From “The Only Grant Writing Book You’ll Ever Need” by Ellen Karsh and Arlen Sue Fox

Do: Use a grammar book, thesaurus, and dictionary

- **Grammar tips**
  - Common style guides*: Chicago Manual of Style*; *MLA Style Manual and Guide to Scholarly Publishing*; *Scientific Style and Format: CBE Manual*
- **Punctuation tips**
  - Punctuation helps to reveal the structure of a sentence (structural meaning), and thus to clarify meaning (rhetorical meaning).
- **Spelling Tips**
  - When in doubt, use a dictionary
  - Remember that spellcheckers:
    - Do not distinguish between homophones **(*principal* and *principle*)**.
    - Do not account for spellings determined by usage **(*resume* and *résumé*)**.
    - May allow variant spellings **(*catalog* and *catalogue*)** in the same document.
    - Do not highlight a misspelled word if the misspelling is itself a word **(*from* and *form*)**.



Do: Use the Active Voice

- **In grant proposals, the active voice keeps you honest and clear. Which statement in each pair is more straightforward and gives the most detailed information?**
  - **Students will be recruited to participate in the Meridian Mews Center's Activities**
  - **The Meridian Mews Center's outreach workers will recruit children to participate in the Center's Activities**
- **Change these sentences to active voice:**
  - It is believed that a lack of understanding about the risks of alcohol is a cause of student bingeing.
  - **Revised:** Researchers believe that students binge because they do not understand the risks of alcohol.
  - The creation of a database is being considered, but no estimate has been made in regard to the potential of its usefulness.
  - **Revised:** We are considering whether we should create a database, but we have not yet evaluated how useful it would be.

Do: Provide Old Information Before New Information

- **Principle of Cohesion: Old to New**
  - **Begin sentences with information familiar to your readers.** Readers get that familiar information from two sources:
    - First, they remember words from the sentences they just read.
    - Second, readers bring to a sentence a general knowledge of its subject.
  - **End sentences with information readers cannot anticipate.**
    - Readers always prefer to read what's easy before what's hard, and what's familiar is easier to understand than what's new and complex.
  - Writers often refer to something in a previous sentence with words such as *this, these, that, those, another, such, second,* or *more*. **When you use any of those signals, try to put them at or close to the beginning of the sentence**:
    - How to calculate credits for classes taken in a community college is **another** issue that we must consider.
    - **Another** issue that we must consider is how to calculate credits for classes taken in a community college.

Do: End Your Sentences and Paragraphs With Emphasis

- We call the most emphatic part of a sentence STRESS.
- **If you end a sentence on words that carry little meaning, your sentence will seem to end weakly.** Compare these sentences:
  - Global warming could raise sea levels to a point where much of the world's low-lying coastal areas would disappear, **according to most atmospheric scientists**.
  - According to most atmospheric scientists, global warming could raise sea levels to a point where much of the world's low-lying coastal areas **would disappear**.
- Just as we look at the first few words of a sentence for point of view, we look to the last few words for emphasis. **You can revise a sentence to emphasize particular words that you want readers to hear stressed and thereby note as particularly significant.**

Practicing “Stress Management”

- Change the emphasis in the following sentences:
  - The President’s tendency **to rewrite the Constitution** is the biggest danger to the nation, in my opinion.
  - The nation is most threatened by the President’s tendency **to rewrite the Constitution.**
  - A new political philosophy that could affect our society **well into the twenty-first century** may emerge from these studies.
  - These studies may result in a new political philosophy that could affect our society **well into the twenty-first century.**

Do: Be Concise

- **Principle 1: Delete meaningless words**

kind of	virtually	actually
individual	particular	basically
really	generally	certain
given	various	practically

- **Principle 2: Delete words that repeat the meaning of other words**

full and complete	true and accurate
hopes and desires	each and every
first and foremost	hope and trust

- **Principle 3: Delete words implied by other words**

serious crisis	untimely death
terrible tragedy	future plans
important essentials	true facts
final outcome	advance planning

Do: Be Concise (cont.)

- **Principle 4: Replace a phrase with a word**

Instead of—	*Try—*
in close proximity	near, nearby, close
is cognizant of	is aware of, knows
in conjunction with	with
are desirous of	want

- **Principle 5: Change negatives to affirmatives**

not different	similar
not the same	different
not allow	prevent
not notice	overlook

- **Principle 6: Delete useless adjectives and adverbs**

  Many writers can't resist adding useless adjectives and adverbs. Try deleting every adverb and every adjective before a noun, then restore only those that readers need to understand the passage.

Don’t: Use too many adjectives or adverbs

- When too many adjectives are tacked on to a noun, verb, or phrase, the reader is likely to see them as just the opinion of the proposal writer rather than documented facts. How do these two sentences differ:
  - The Meridian Mews Center runs high-quality, exhilarating, well-regarded programs for poor, disadvantaged, disabled children.
  - The Meridian Mews Center runs four programs that have been cited for excellence by the National After-School and Weekend Program Society. Attendance at all four programs is over 90 percent. During the last year, parents have written more than 50 letters to the executive director praising the programs.
- The first statement is just…words. It doesn’t say anything that has meaning.

Don’t: Use Acronyms or Abbreviations

- Compare these two sentences:
  - The Department of Health (DOH) has a staff of 450 physicians, nurses, and nonmedical personnel. Starting on January 4, 2016, DOH will begin offering free tuberculosis screening for children at the Meridian Mews Center.
  - The Meridian Mew Center has collaborated for the last eight years with professors from the PE Department at MU. DOH has a branch at MU and also works closely with the IT Department and the local Y.
- Rule: The term represented by an acronym should be spelled out over and over—unless you have just explained it in the same paragraph (or within a couple of paragraphs).

Do: Back up your claims

- Unproved, unexplained statements thrown into a proposal hurt your credibility with grant reviewers. Compare these two statements:
  - Everyone in the community thinks the Meridian Mews Center runs educational and enjoyable programs.
  - According to surveys that were conducted in two community churches and two schools, 60 percent of residents of Meridian Hills Mews think the programs offered at the Meridian Mews Center are educational and enjoyable
  - The police are excited about the Meridian Mews Center's activities.
  - According to interviews with police officers in the Meridian Mews precinct conducted by program staff, 20 of the 25 officers questioned feel that the Center's programs encourage children to stay out of trouble.
- Offer proof for your proclamations.

Project Summary #2: The Basketball Project at the Meridian Mews Center

The Meridian Mews Center is requesting $10,000 for a basketball and mentoring project designed to engage troubled youth and lead to their improved behavior in and out of school. Center staff will recruit 25 boys between the ages of 13 and 16 who live in the North Meridian Mews neighborhood of downtown Metro City, Indiana. Participants, identified by families, teachers, counselors, and others, will have demonstrated acting-out and behavior problems.

The overall goal is to increase the likelihood that the teenagers who participate in the activities will stay in school longer and become productive members of the North Meridian Mews community.

Specific objectives include improved basketball skills and teamwork, and knowledge of how to create a positive appearance through dress; these skills in turn will improve self-esteem and reduce acting-out behavior.

Activities will include basketball instruction; team competition; dress-for-success lessons by the coaching staff; one-on-one and group counseling, and trips to professional and college basketball games. The program will operate twice a week after school from September 1, 2016 to June 30, 2017. Activities will be held at the Meridian Mews Center, Meridian University, and the YMCA. Staff will include basketball coaches, a psychologist from Meridian University, and a social worker and recreation specialist from the Meridian Mews Center.

Address Proposal Aesthetics

The proposal must be aesthetically appealing

"Just as clothing is important in the business world for establishing initial impressions, so, too, is the appearance of your proposal as it reaches the reviewer's hands. The proposal should 'look' familiar to the reader. A familiar proposal is a friendly proposal (Jeremy and Lynn Miner)."

- If allowed, **match** the funder's publications style (same type size, style, layout, and headings as they do in their publications) …. *Your proposal will look more credible and familiar*

- Use **white spaces** for visual relief and to frame the text (don't go overboard)

- The proposal should support **all types of reading** (skim, search, critical)

Proposal Aesthetics (cont.)

- Use at least a 12-point **Type Size** (smaller is difficult to read)… *make ideas fit by tightening sentences, editing wordy phrases etc. not by changing font size*

- Unless otherwise specified, uses **Serif** typefaces for text and **Sans Serif** typefaces for titles and headings. Serif type easier to read; sans serif makes titles and headings stand apart from the text

- Use **Bold Type** to emphasize key words and ideas; avoid overemphasis

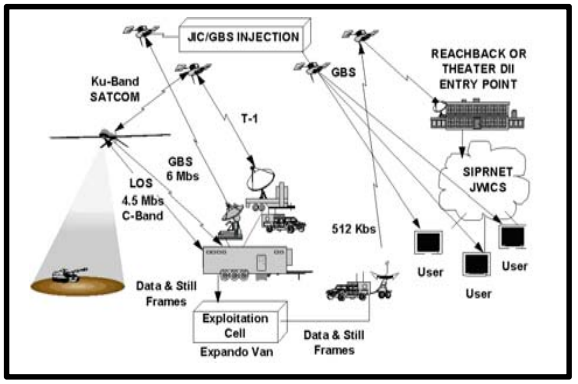
- If allowed, format with **Ragged Right Margins;** makes reading easier because it is easier for your eye to track from one line to the next

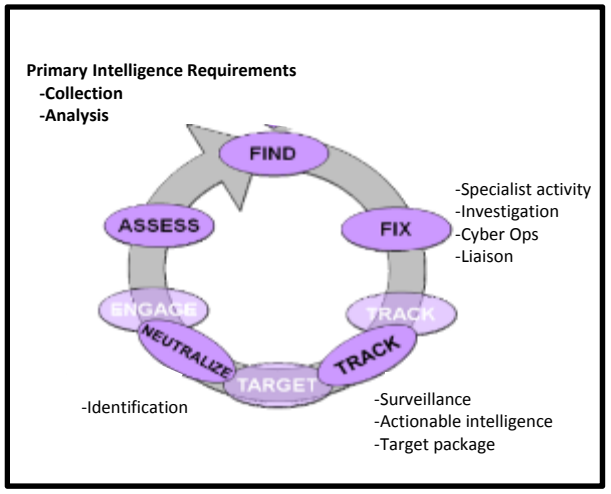
Proposal Aesthetics (cont.)

- Before creating figures and tables, put yourself in the position of the reader…***what would you want to know****?*
- Ask yourself
  - What do you want to say and why does it matter?
  - To whom do you want to say it?
  - How do you say it?
- Create figures and tables that are easy to read and that
  - Support the narrative, help tell the story
  - Summarizes technical details
  - Support the different reading styles, particularly skimming
- Create **Lists** to quickly provide the message, convey chunks of information
- With lists, figures and tables, use level of detail appropriate for *persuasion* not for an *expository* peer reviewed journal article

Figures Examples

Both of these figures are about a company proposing a project to the Army… which is more appealing to an Army proposal reviewer?





Both of these figures are about a C4ISR system… one is better for a technical report, the other for a proposal

Write for Reviewers

You Should

- Pay attention to all the review criteria
- Assume an uninformed but intelligent reviewer
- Avoid insider jargon and acronyms
- Consider the challenges facing reviewers
  - *Many proposals* to review
  - *Limited Time* for your proposal
  - Different *experiences* in review process, veterans to novices
  - Different *levels of knowledge* in proposal area
  - With many proposals to review, looking for reasons to *reject* proposals

Your Proposal Must

- Support each reading style; reviewers will use them all (*skim, search, critical*)
- Get reviewers excited and interested starting from the title and first page
- Make them an advocate for your proposal to their colleagues … *likely only one will review the proposal all the way through*
- Excite, not bore, confuse or anger reviewers… *negative emotions are the kiss of death*

What Grant Reviewers Don't Want

10 Problems with NIH Grant Applications

- No clear hypothesis or well-defined goals
- Specific Aims don't test the hypothesis or the specific aims depend on results from previous aims
- Not scientifically relevant
- Application is not appropriate for the grant mechanism
- Proposal is too ambitious
- No preliminary data for all aims
- Investigator doesn't have necessary expertise
- Background section missing key publications and experimental findings
- Approach/methodology is inadequately described
- Proposal not relevant to the mission of the institute

When Your Proposal Is Rejected

- Every successful proposal writer has been rejected
  - Re-submission success rates are relatively high (up to 50% for 2nd and 75% for 3rd time submission to some NSF directorates)
- Clearly understand reasons for rejection (may need Program Officer clarification)
  - NIH study of 609 reject proposals shows most common reasons for rejection
    - Approach - 73%
    - Problem - 58%
    - Investigator - 55%
- Can you address each reviewers comments with new, relevant information (and without being hostile)?
- Will your revised proposal address every requirement, be more understandable and more compelling?
- If revisions are too extensive, you should submit a new proposal
  - NIH carefully monitors new applications to be sure they are not rejected proposals that have just been re-titled

Adapted from NIH RO1 Grant Application Mentor from the Principal Investigators Association

Bad Proposal Example

Hypothesis: The goals of this proposal are to identify microRNAs (miRNAs) and elucidate gene networks that regulate limb regeneration. These studies will (1) identify miRNAs that contribute to the regulation of regenerative capacity; (2) identify miRNA-target mRNA pairs involved in limb regeneration; and (3) test selected microRNAs for their ability to promote regeneration.

Purpose: Elucidation of microRNA-dependent regulation during amphibian regeneration should identify key molecular components and regulatory steps that could potentially permit the therapeutic activation of regenerative processes in mammals.

- SA #1: Identification of microRNAs expressed in intact, regenerating, and non-regenerating limbs.
- SA #2: Characterization of miRNA-mRNA regulatory interactions
- SA #3: Functional analysis of selected miRNAs in limb regeneration

From "Grant Writing for Success: Top 10 Reviewer Concerns and Good/Bad Grants" by LeShawndra N. Price, NIH

Reviewer Comments

- Unfocused screen for potential miRNAs that participate in limb regeneration.
- The functional characterization is less focused and thus more uncertain in outcome. The potential unique assay offers a tantalizing opportunity, but it would be stronger if a more comprehensive analysis of all candidates were proposed.
- The functional analysis is diffuse and overly ambitious. There is a major concern that the results will not lead forward to a more mechanistic understanding of limb regeneration.
- Study in cells is very promising but extrapolation to limbs and tissues may be technically challenging.
- Need discussion of controls/quantitative effects of method on normal regeneration.
- The method of incorporating agents into *specific tissues is a very new method.* None of the PIs have used this method previously; preliminary experiments would strengthen the feasibility of this approach.
- The PI is new to the regeneration field and has no funding or publication history in this area

Good Proposal Example

Hypothesis: *Chronic drug* exposure upregulates the expression of *Factor X,* which triggers and sustains the exocytotic trafficking and surface expression of functional *Receptor A*

Purpose: To investigate the molecular mechanisms for *Factor X*-induced *Receptor A* trafficking

- SA #1: Determine the signaling pathways mediating *Factor X*-induced R*eceptor A* trafficking
- SA #2: Determine *Factor X* involvement in *drug*-induced *Receptor A* trafficking
- SA #3: Determine the synaptic sites of *Receptor A* trafficking and *Receptor A-B* interactions
- SA #4: Determine the behavioral significance of emergent *Receptor A* and behavioral *Receptor A-B* interactions

Reviewer Comments

- Strengths are numerous and include novel and innovative hypotheses, sound experimental design using multidisciplinary approaches, a highly qualified investigator and research team, and a high likelihood of meaningful findings

- Strengths include the significance of the central hypothesis, the well-designed experimental plan, supportive preliminary data ….

- …the rationale for the studies are clearly delineated, appropriate controls are in place, scope of the studies is appropriate, and there is … complete discussion of possible limitations of some approaches and how findings will be interpreted

Summary

- Take a break between editing and writing; edit first for spelling, punctuation, and grammar then for content
  - Use dictionaries, style manuals
- When editing for content: be clear and graceful
  - Use active voice
  - Use old to new transitions
  - Place emphasis in the correct place
  - Tie all the sentences in a passage together
  - Delete meaningless and repetitive words
- Write for reviewers
  - Pay attention to all the review criteria
  - Assume an uninformed but intelligent reviewer
  - Avoid insider jargon and acronyms
  - Get reviewers excited and interested starting from the title and first page
  - Make reviewers advocate for your proposal to their colleagues
- Remember that every successful proposal writer has been rejected
  - Keep trying: revise and resubmit or write a new proposal

Marketing Your Proposal

Acquisition Planning… *Key to Successful Marketing*

Typically 1 year or more

Phase	Activities
Long Term Positioning	• **Contacts -** customers, teammates, competitors, suppliers • **Develop/Execute Action Plans** - technology, business, campaign
Opportunity Assessment	• **Customer making funding decisions** - understand customer issues and motivations • **Assess** - opportunity fit with business plans, competencies, costs to pursue (e.g., will take significant investment to displace incumbent)
Opportunity Pursuit	• **Customer open to suggestions** - influence RFP for greater competitive advantage • **Develop win strategy; calculate P_{win}** • **Likely a win if** *"we can give the customer an offer that speaks directly to and meets their wants and desires and we have a demonstrated track record of performance thereby earning the customer's trust"*
Pre-Proposal Preparation	• **Develop Organization and Procedures –** developed for a winning proposal effort • **Assess** - actual solicitation against previous planning • **Capture lead -** interacts with customer, organizes team • **Win strategy** - update, execute • **Proposal design** - reviewed by Review Team

Market Your Ideas and Proposals…
Think Like a Marketer

- Always see things from the **customer's point of view**

- **A proposal is not about you or your needs**, it is about the funder's needs… *you' re project should make the funder successful*

- **Share the right information at the right time in in the right order**

  ***Why** is this of interest to the funder?*
  ***Who** is proposing the work and are they credible?*
  ***What** is the theory/model/hypothesis behind the proposal?*
  ***How** are you going to accomplish the research and spend funds?*

Marketing is Ongoing

- **Should begin with the first funding officer contacts well before a proposal is submitted**
  Treat customer contacts including white papers, LOIs, etc. as marketing opportunities

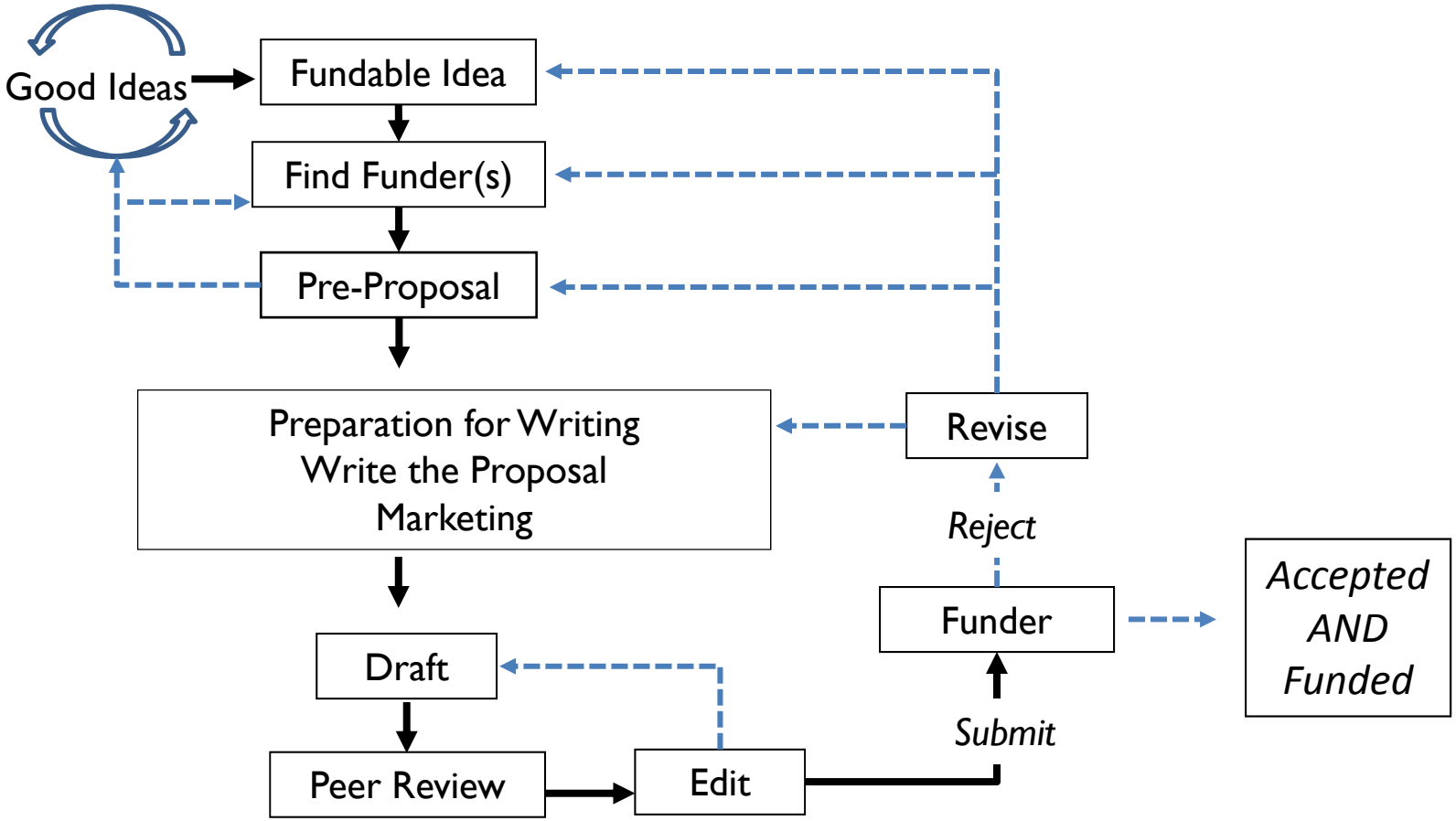
- **Writing for marketing (White Papers, Letters of Intent, etc.) should be clear and effective**
  Apply the "PIP" writing style and make sure your title and abstract/summary standout

- **The best marketing creates an emotional response to your ideas and proposals**…
  excitement, keen interest, compelling, "I've got to have it now"… not boredom, confusion, or *even anger*

- **Marketing doesn't end with the proposal submittal**
  You could be contacting the funding officer for a re-submittal if your proposal is rejected and additional funds after an initial award

Bootcamp Wrap Up

Proposal Development Process

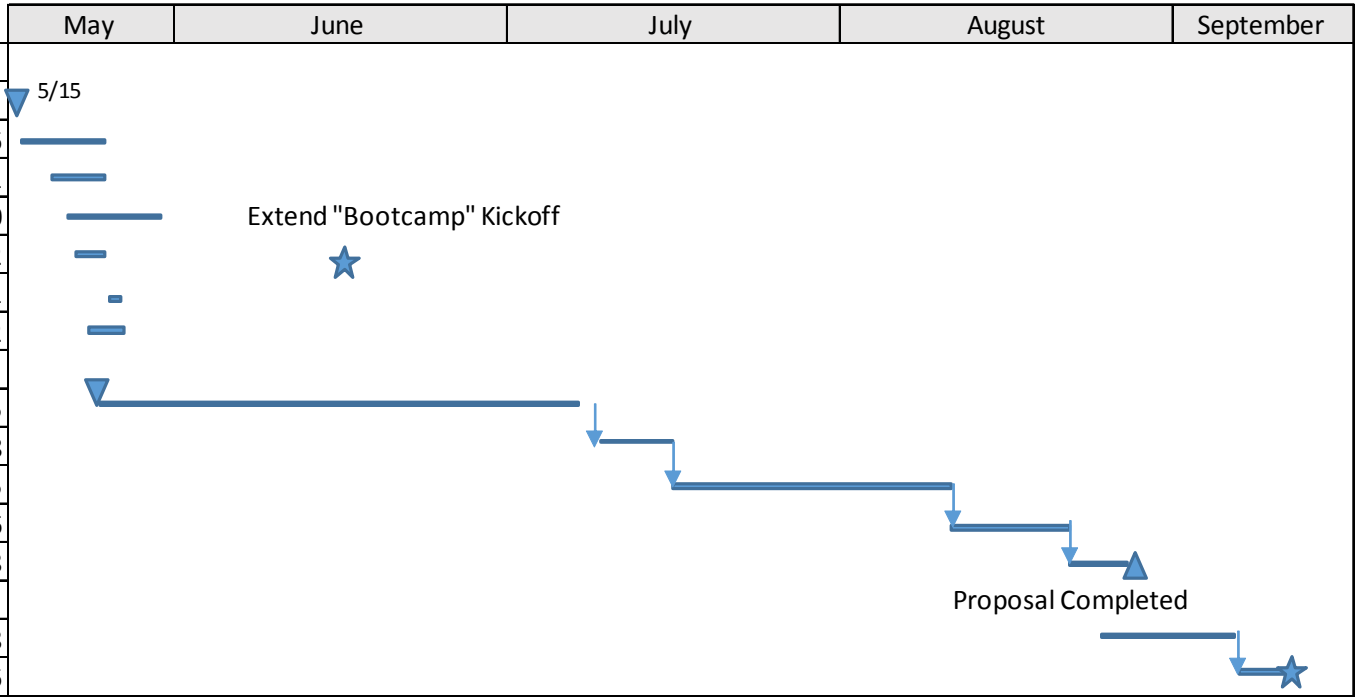


Conclusion

- The writing, editing, marketing approaches described over the past few days are proven practices for proposal success
- Encourage lots of program officer contact and customer knowledge
- Encourage lots of proposal review as part of the proposal maturation process
- Next steps could include the “Extended Bootcamp”

Potential Extended Bootcamp Schedule

Tasks	Days
Commit to Full Proposal	
Complete Bootcamp Proposal	6
Identify RFP/FOA	1
Develop Funder Knowledge	10
Decompose Solicitation	2
Develop PO Contact Plan	1
Create Proposal Schedule	2
Write Proposal	
First Draft	25
Technical Review	8
Second Draft	15
Panel Review	6
Revise Proposal	8
Submit	
Approvals	8
Orca Review, Submittal	6



- Handouts
- Notes from Faculty Panel Presentation and Discussion

Generating Fundable Ideas[1]

How to Develop and Optimize the Idea for Your Grant Proposal

- Identify a relatively under-explored niche within the area of your broad research interest.
- Identify the long-term goal you have within the niche area.
- Conceptualize the step-by-step continuum of research that you have just formulated.
- Identify the potential subject of the application you intend to write, i.e., the next logical step that needs to be taken along the continuum of research that you have just formulated.
- Search and critically analyze the literature that is pertinent to the step you want to take.
- While searching and analyzing the literature, develop a list of key words that are pertinent to the area and the names of the investigators who have been active in the area during the last ten years.
- Asses you own ability to pursue the idea, including such things as relevant expertise and resources.
- Assess your competition and use information gleaned from databases of funded grants to improve your idea and the research design of your own proposal.
- Assess which granting agencies are most appropriate to your idea, i.e., ones whose mission will be advanced by funding your idea.
- Once you have brought the idea of the best level that you can, seek constructive criticism of it from knowledgeable colleagues. Use their feedback, if helpful to maximize the idea's potential as the starting point for your application.

[1]Adapted from guidance provide by NSF experts

Questions to Gage Your Readiness

The following questions are a good starting point for any grant proposal. You need a brief, convincing answer to each of them as a way of testing your readiness to start writing. Answer each of the following in 25 words or less:

1. In terms of research, what are you passionate about?

2. What is the problem (or need) and why is it important?

3. What sources or kinds of data can you use to validate the importance of your proposed project?

4. How is existing knowledge or practice inadequate?

5. Why is your idea better?

6. How is it new, unique, different?

7. What will it contribute and who will benefit from it?

Proposal Writing Checklist

Proposal Logic, structure, themes

1. Have you clearly identified the current situation, desired result and benefits?
2. Have you developed the six generic structure slots and do they answer the funders question "Is your project worth funding?"
3. Have you used "PIP" (Persuasion, Information, and Persuasion) in the different sections of your proposal?
4. Do you have clear proposal theme(s) that are developed throughout your proposal?
5. Are you methods persuasive and addressing "how" not "why"?
6. Are all tasks in your methods/approach tied to objectives?
7. Do your qualifications describe why your team is best suited for the proposed project?

Writing, Editing, Re-writing

1. Does your proposal mostly use active voice?
2. Have you checked spelling and grammar?
3. Do your sentences provide old information before new information (Cohesion principle)?
4. Do your sentences and paragraphs end with emphasis?
5. Are your sentences logically connected and is there transition between new thoughts in paragraphs and between paragraphs?
6. Are you concise?
    a. Are there words you can delete (meaningless, repetitious, implied words)?
    b. Are there phrases you can replace with words?
    c. Can you change negatives to affirmatives?
    d. Can you delete useless adjectives and adverbs?
7. Do you use acronyms only when necessary and are they spelled out the first time you use them (and later if you haven't used the acronym for a few paragraphs)?

Proposal Aesthetics

1. Does your proposal match publication styles your funder is used to seeing?
2. Have you used white space effectively?
3. Does your proposal support skim, search and critical reading with headings and subheadings, underlining, bold type as appropriate?
4. Unless dictated otherwise by the proposal guidelines, are you using at least 12-point typeface and serif typeface for text, sans serif for titles and headings?
5. Unless dictated otherwise by the proposal guidelines, are you using ragged right margins?
6. Are your figures and tables conveying a persuasive message that is quick to grasp and appropriate for a proposal?

Faculty Panel

- **Ryan Kellems** is in Special Education. His research interests include video modeling, transition for students with disabilities, post-school outcomes of students with disabilities, assistive technology, and working with young adults with autism. He has received funding for grants from the U.S. Department of Education Office of Special Education Programs (OSERS), the Institute for Educational Sciences (IES), and the University of Oregon. Ryan has served as a review panelist for U.S. Department of Education Office of Special Education Programs (OSEP), and the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR).
- **Tim McLain** is in Mechanical Engineering and is the past chair of the department. He leads the NSF-funded Center for Unmanned Aircraft Systems; his research focuses on dynamic systems, control system design guidance, dynamics, control, and autonomy of unmanned aircraft systems. In addition to funding from the National Science Foundation, Tim has also been supported by the Department of Defense.
- **Joseph Price** is in Economics. He specializes in family, education, health, and behavioral economics. His research has examined various ways to promote positive behaviors in children, issues related to parental investments in children, and the use of sports data to identify various behavioral biases. Joe has been funded by the USDA, the Spencer Foundation, and the Institute for Research on Poverty.
- **Michael Whiting** is in Biological Sciences. His research uses genomic information to unravel patterns of insect diversification and evolution. Michael has received a National Science Foundation Career award. He has been an NSF review panelist and an NSF Program Director in Systematics and Biodiversity Sciences.

Notes from Faculty Panelist Presentations and Discussion May 10, 2016

Tim

- Proposal writing most difficult for him; harder than writing for journal articles and other types of
- Developing a compelling and convincing story in the proposal involves rejection, repeated rejection – didn't do a good enough job convincing ourselves
- Funding from NSF, DoD, NASA
- Key points for effective proposal writing
    - Knowledge of opportunities, process, rules, expectation, customer's needs (especially for DoD and NASA)
    - Do groundwork, odds of success go up dramatically; look to colleagues and mentors, research development to help with groundwork
    - BAA may not have been written by Program Officer so you need to know what the PO is really looking for
    - Know what problems are important to the funder, what they are buying – may not be clear in their BAA
    - Get out of Provo, go to other labs like DoD and National labs, other places to get experience and contact with funders
    - Add value to funder so he can defend his program to his superiors (e.g., for federal funders, must defend to Congress)
    - Types of funding include single, multi, teaming, young investigator, SBIR (small business innovative research), STTR (
    - Know process rules, expectations described in the solicitation
    - Learning the elements of the process that are a bit more subtle; learn the process by contacting the PO, being a panelist, learning what works, what doesn't;
      review some good proposals and some bad ones
- Tim wrote a lot of proposals, spent a lot of time working in labs, working with Program Officers to get funding

Joe

- Ask yourself why do you want funding
- For Joe, he wanted grants for undergrad students primarily; has 30 working for him now
- Think carefully where you can get funding – for him, USDA was a key funder
- Found success by collaborating with outside universities that have funding
- Reach out to colleagues that have awards; he has found in his most are willing to share
- Give students assignment to read CVs and look for overlap that can work for his research

Mike

- Handout
- POs do review analysis – everything about proposal has to be reported to higher ups
- What about previous funding- make sure it was well spent
- Broader Impacts – explain what you are doing to benefit society; not just that that your are doing good science; what are you doing beyond the good science. A good Broader Impacts will move your proposal up to the top for consideration
- Risk – what is probability work will be done.
- Originality – what are you going to add to field as opposed to what is truly innovative. If have limited funding, will go for low risk, high originality but NSF wants some high risk, as well as solid proposals that are more low risk; NSF wants a portfolio that is variety of different types of risk and types of institutions from different geographic areas
- NSF program officers - 60%+ of awardees had some contact with program officer before submitting their proposals

Ryan

- Know what type of funds you are applying for
- If you have something you want but it is not a good fit, you can wait for the next funding cycle for that funder to see if it aligns or look for a different funder
- Some proposals don't have specific criteria
- Cultivate relationships with PO
- Grant writing should be part of a culture
- Collaborate with faculty at other universities.
- When writing with collaborators, must have almost instant access; don't use someone as a collaborator if that person is hard to get ahold
- How review process works for education panels Ryan has been on
    - Got on list of potential panelists as a graduate student
    - Start panel review 3-4 months in advance of convening the panel to discuss proposals
    - Everyone reviews proposals
    - Each section gets scored
    - Grant panel comes together, panelists say how they scored each proposal; someone has been assigned as the primary reviewer and that person writes up the panel review
    - When writing a proposal, make it easy to find information related to criteria
    - Have a bold heading for each section
    - Make it very clear how you are meeting each criteria in the RFP

Suggestions on Broader Impacts and overhead relief

- With the lack diversity at BYU, writing effective broader impact statements for NSF (and the equivalent type of outreach statements for other funders) can be challenging
- Some suggestions for broader impacts/outreach include identifying impact on society from technologies from your research, making research experience for undergrads part of your plan, need viable plan.
- There is more diversity now in engineering, for some areas, you can include women as an underrepresented group you target (though in biology, women are no longer considered underrepresented).
- Mike has tied his outreach efforts to BYU Hawaii undergrads – BYU has the most diverse population that includes south sea island populations
- The ~50% overhead rate BYU charges on awards [[this is the rate negotiated with the federal government]] can sometime get reduced or eliminated; ORCA/VP of Research makes that call

Question: How do you do multidisciplinary research?

- Look for gaps between different disciplines and develop some level of expertise in a new area
- For example, some in Mechanical engineering have had to develop competency in machine vision to support projects that have never used machine vision before
- NSF (and other funders) looking to fund research in the gaps

Question: How do you get on a panel and what do panels do?

- Introduce yourself to program officers; serve on a panel, make yourself available
- You will get to see how good proposals rise to the top
- POs even want young faculty on panels and also want from a variety of universities, not just from the tier 1 research universities
- NSF will keep track of every reviewer so make sure you do a good thorough job as a panelist
- Time when panelists received and start reviewing proposals depends on when they due; usually panels start right after proposal deadline

Question: How do you allocate time to put into a grant proposal

- Good to plan regular writing time

- Some use the blunt force method (put in a massive effort in a short time to get award completed just before it is due) – not recommended
- Make sure you are working the submittal process ahead of time so you can make changes if something about submittal fails

Question: Are there negatives to having faculty at BYU receive only a limited summer salary and not be able to work full time on a grant?

- NSF – did not look particularly favorably at awards that had a lot of summer salary
- Shouldn't propose to do research you cant complete
- Perspective that you are hired and funded by BYU so that is a good thing
- NIH – likes have BYU faculty on hard money
- NSF understand that faculty would spend more time on award than just what is in the summer salary

Question: how long can you keep proposing to new faculty opportunities before it counts against you?

- NSF likes to fund young investigators; make sure money is being spread to different organizations
- Never blackballed for turning in many proposals, want to fund you eventually
- For NSF, if you have a gap in funding, that is not held against you

Question: What about unsolicited proposals?

- For NSF can do RAPID or EAGER unsolicited proposals (other agencies have unsolicited opportunities as well) but you should mostly try to propose to specific
  for specific topics
  [*"RAPID* funding mechanism is used for proposals having a severe urgency with regard to ... EArly-concept Grants for Exploratory Research (*EAGER*)].

Question: How do you work with collaborators, how do you get them going?

- Panelists experience is that most who get contacted about collaborations will say yes, but make sure they will do it

Question: What is the difference between a PI, CoPI, CoI, consultant

- PI takes ball, runs with it, makes sure everything is done; Co PI can fill in for senior PI if need to
- Senior personnel should have a particular expertise you need
- Consultants can be senior, key people and
- Avoid subawards at BYU, make them consultant if you can (can be easier to pay, e.g., flat fee for their services)
- Career proposals can't have co PIs but can have consultants

Example of an NSF Program Officer Review Analysis Boiler Plate

Proposal Summary:
Funding was requested to examine [1-3 sentences that describe goals and approach of proposed work

Results of Prior NSF support: N/A
Previous NSF funding has resulted in… [# of publications, presentations at meetings, software development,…]. Broader impacts include the training of [undergraduates, graduate students, postdocs, high school students, including individuals from underrepresented groups]
Score Summary:

Intellectual Merit:
Overall, the program agrees with the assessment of the reviewers and panel about this proposal. The proposal was thought to have substantial strengths in a number of areas, including…

Overall, the program agrees with the assessment of the reviewers and panel about this proposal. The proposal was thought to have some weaknesses, but many well-developed, stronger, aspects. The positive aspects of the proposal were....
Specific weaknesses that lowered the priority for this proposal include:

Overall, the program agrees with the assessment of the reviewers and panel about this proposal. The proposal was thought to have substantial weaknesses in a number of areas, including:

Although the panel recognized that a fair amount of attention had been given to suggestions made in the previous proposal,

Broader impacts:
The broader impacts of this project are [outstanding, strong, routine, limited, absent].

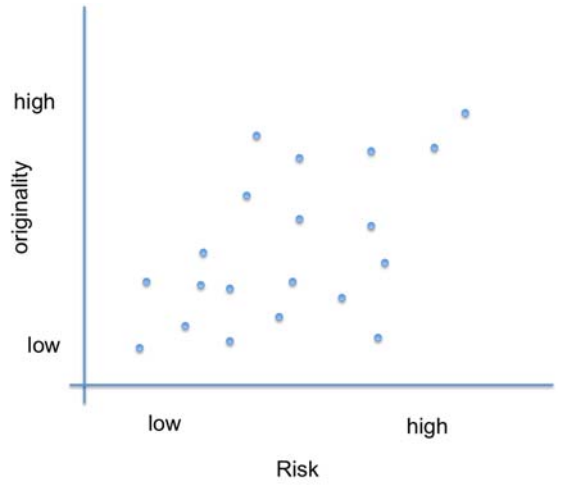
This study would result in the training of undergraduates and graduate students [, including individuals from under-represented groups].

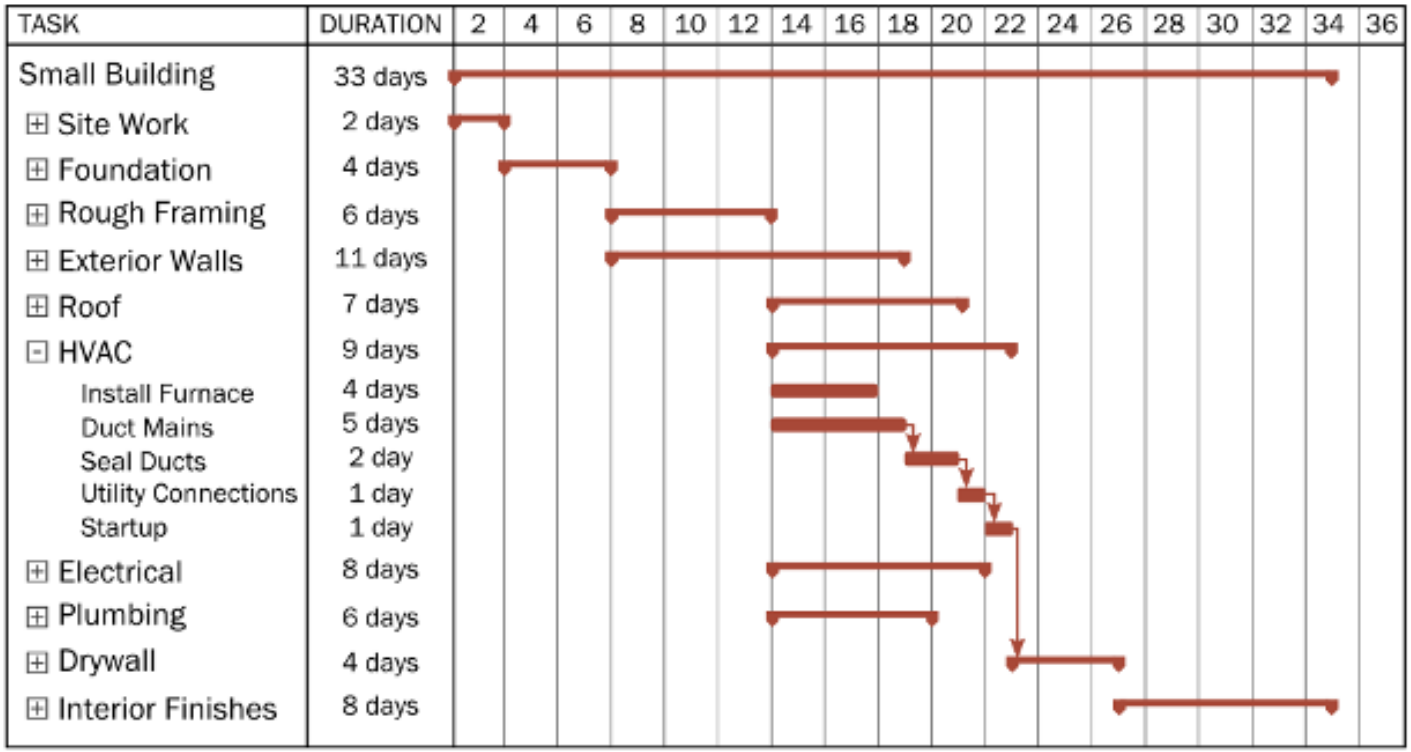
This study would result in the training of a post-doctoral researcher. The post-doctoral mentoring plan was [outstanding, strong, routine].

This study would include outreach to K-12 teachers and students[, including individuals from under-represented groups] and the general public.

This project would enhance scientific infrastructure by…
This project would strengthen international scientific infrastructure and collaboration by ….

The research from this study would provide society benefits through....
However the reviewers and panel were skeptical about these claims.



Gantt Chart Example

Simple Gantt Chart for Constructing a Building