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## Practice — Visual Information Field Displays

### Preview

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#### Introduction

This practice opportunity allows you to react and adapt to the cues and guidelines for the eight visual information field displays.

You should assume that Sam and Sal –

- are colleagues who have been educated and trained along with you.
  - ask you to examine their work output before it “goes to print.”
- 

#### Work setting options

You have these options for doing these practice work sessions:

- work alone.
  - interact with one or two others.
- 

#### Expected output

The output expected from these practice sessions is twofold:

- decision for Sam’s or Sal’s version as the better of the two.
  - verbal or written reference to supportive cues and/or guidelines in the KnowSys documentation.
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You can find the following contents on the pages shown.

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## Action Field Display Practice

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### Directions

Read the following displays of action field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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### Action: “before”

This text appeared in a recent Internet Resources publication:

“All the WAIS servers (or sources, the terms are interchangeable) are marked with the WAIS for Macintosh icon. To retrieve a specific source, create a new question with WAIS for Macintosh (if you’re using the VT-100 interface, glance back at chapter 9 for details on how to use it), drop the Directory-of-Servers source into the Sources box, and type the name of the source into the question. While you’re at it, consider typing in some related words to see whether the search finds anything else interesting along the same topics. After you click on the Run button, WAIS should return a list of sources, one of which should be the one you want. If not, make sure you spelled everything correctly.

“After you have this new source, drag it into your Sources window and save it, and then you can ask a new question using your new source.”

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## More... Action Field Display Practice

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### Sam's "after"

*Sam built this linear action table, preceding it with this directive stem:*

Follow these steps to retrieve a specific source, using a Wide Area Information Server (WAIS).

Before you begin, you will need to select the "WAIS for Macintosh" icon.

Step	Action
1	Create a new question. <i>Note:</i> If you are using the VT-100 interface, then refer to Chapter 9 for directions on how to use it.
2	Drop the Directory-of-Servers source into the box, tagged "Sources."
3	Type the name of the source into the question. Do you want to see if the search finds anything else interesting along the same topics? <ul style="list-style-type: none"> <li>• <i>If yes, then</i> type in some related words.</li> <li>• <i>If no, then</i> go to next step.</li> </ul>
4	Click on the Run button. Does WAIS return a list of sources? <ul style="list-style-type: none"> <li>• <i>If no, then</i> check accuracy of your spelling and repeat Steps 1 through 3.</li> <li>• <i>If yes, then</i> go to next step.</li> </ul>
5	Drag the new source into your Sources window, and save it. <i>Result:</i> You're ready to ask a question using your new source.

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## More... Action Field Display Practice

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**Sal's "after"**

*Sal built this linear action table, preceding it with this directive stem:*

These steps describe how to retrieve a specific source using a Wide Area Information Server (WAIS).

*Important:*

Before you begin, the "WAIS for Macintosh" icon must be selected.

If you are using the VT-100 interface, then refer to Chapter 9 for directions on how to use it.

Step	Action
1	Create a new question.
2	Drop the Directory-of-Servers source into the "Sources" box.
3	Type the name of the source into the question. <i>Note:</i> Accurate spelling is essential for WAIS search success.
4	Do you want to see if the search finds anything else interesting along the same topics? <ul style="list-style-type: none"> <li>• <i>If yes, then</i> type in some related words.</li> <li>• <i>If no, then</i> go to next step.</li> </ul>
5	Click on the Run button.
6	Does WAIS return a list of sources? <ul style="list-style-type: none"> <li>• <i>If no, then</i> check accuracy of your spelling, and repeat Steps 1 through 5.</li> <li>• <i>If yes, then</i> go to next step.</li> </ul>
7	Drag the new source into your Sources window, and save it. <i>Result:</i> You are ready to ask a new question using your new source.

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## Situation Field Display Practice

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### Directions

Read the following displays of situation field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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### Situation: “before”

*This textual information appeared in a recent book about finding people to write to on the Internet.*

“How do you find the address of someone who you know uses email? The simplest and most effective method occurs to many net denizens—use the telephone and ask them. This low-tech method has the advantage of being quick, accurate, and easy. You do need to know your friend’s telephone number, or failing that, her address, so you can call the all-knowing information computers at the phone company.

“Many computers know what users they support, and you can find some information via a program called *finger*, but that information doesn’t help unless you already know what machine to search. Many organizations shield their users from the outside world for reasons of security and privacy. These shields also make it difficult to determine how many people actually use the Internet.

“Finding new friends is easy on the Internet. Communicating with them in a discussion list via email or news requires nothing in terms of opening lines or trivial small talk — just replying to their messages.

“Finding people again after some time often proves more difficult. You may not remember where a person lives, or if it’s in the United States at all; you probably don’t know his telephone number or how to spell his name. If you haven’t saved a message (which contains the all-important email address in the header) or recorded his email address somewhere, you have to hope your friends are better organized than you are.

“You must figure out some way to keep track of your correspondents’ email addresses. Nickname features work well although they may prove unwieldy as a storage mechanism later on. If that’s true, you could use a standard database or address-book program that can handle an extra field for email address. How many times have you lost an address that you wanted several months later?

“Keep a copy of every piece of email you send, even if it’s one of hundreds per month. You can search that file, large though it may be, for email addresses that have escaped your short-term memory.”

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More...

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## More... *Situation* Field Display Practice

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### Sam's "after"

*Sam built this list of bulleted options, preceding it with this stem:*

These guidelines should be applied when people need to be found on the net.

You have two basic options:

finding people you know and don't know or remember.

- People known
  - Ask for email address by telephone.
  - Use *finger* program.
- People not known or remembered
  - Communicate with new friends via email or news
  - Reply to messages of new friends
  - Save their messages
  - Save the headers from their messages
  - Store email addresses in database or address book program
  - Store email addresses in nickname file
  - Search copies of email messages sent

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## More... *Situation* Field Display Practice

### Sal's "after"

*Sal built this Options>Guidelines table, preceding it with this directive stem:*

Apply these guidelines when you want to find people on the net.

Options for finding email address of...	Guidelines	Comments
known person	<ul style="list-style-type: none"> <li>• use the telephone to ask for the email address</li> <li>• use <i>finger</i> program</li> </ul>	<ul style="list-style-type: none"> <li>• low-tech method</li> <li>• simple and most effective method</li> <li>• quick, accurate, easy</li> <li>• depends on knowing phone number or address, or computer site</li> </ul>
unknown person for the first time	<ul style="list-style-type: none"> <li>• communicate with new friends via email or news</li> <li>• reply to messages of new friends</li> </ul>	<ul style="list-style-type: none"> <li>• no problem with email address because it comes with email messages or news</li> </ul>
known person after the first time	<ul style="list-style-type: none"> <li>• save their messages</li> <li>• save the header from their messages</li> <li>• record email address in a standard database or address book program</li> <li>• store their email address in a nickname</li> <li>• search copies of every piece of email you have sent</li> </ul>	<ul style="list-style-type: none"> <li>• more difficult because you can't remember name or geographical address</li> </ul>



## Fact Field Display Practice

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**Directions**

Read the following displays of fact field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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**Fact:  
“before”**

*This excerpt appeared in a recent publication about describing what one needs to access the Internet:*

“First, you need any sort of computer. To get the most out of this book, you should use a Macintosh. You don’t need a fast Macintosh, although they’re always nice. I wrote this book on a PowerBook 100 and an SE/30, neither of which compete in the Macintosh Olympics any more.

“Second, you need some type of a physical connection to the Internet. This connection may take the form of a local area network at work or, more likely, a modem. A 2400 bps modem works—the faster, the better.

“Third, I recommend that you use System 7 or 7.1, if only because I haven’t used System 6 in over two years, and I have no idea if this software works under System 6. In addition, all of my instructions assume that you use System 7. If you need to upgrade, talk to your dealer.

“Fourth, you need an account on a host machine somewhere.”

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## More... *Fact Field Display Practice*

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### Sam's "after"

*The series, "first...fourth," might be a cue for the steps in a task. Here, however, Sam realized that the text is counting a list of needs for doing a task: accessing the Internet. Sam applies the guidelines for a list of facts as follows, and tags it as "What you'll need":*

This list includes everything a Macintosh user needs to access the Internet. The initial cost of each determines its order in the list.

1. A Macintosh computer—faster is nicer.
  2. A physical connection to the Internet—modem or local area network.
  3. Recent Macintosh operating system — System 7 or 7.1.
  4. An account on a host machine — local phone calls are less expensive.
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### Sal's "after"

*Sal realized that the words, "first...fourth," are counting a list of needs for accessing the Internet, with interesting comments thrown in.*

*She applies the guidelines for a table of facts as follows, and tags it as "Table of facts":*

This table includes what a Macintosh user needs to access the Internet, along with suggestions.

<b>What you'll need</b>	<b>Suggestions</b>
Macintosh computer	PowerBook 100 or faster
physical connection to the Internet	2400 bps modem or faster
recent Macintosh operating system	System 7 or 7.1
account on a host machine	a local host costs less

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## Construct Field Display Practice

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**Directions**

Read the following displays of construct field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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**Construct:  
“before”**

This text appeared in a recent publication about connecting to Internet:

“The Internet consists of over 17+ million participants, nearly two million host computers and client computers linked by local area networks or telephone modems, low-level and high-level software programs ( like TCP/IP and Fetch), and a massive quantity of information (e-mail, Telnet) all around the industrialized world. Perhaps the best way of understanding the Internet is to think about the blind men all describing an elephant — like an elephant, the Internet is more than the sum of its parts and their descriptions.”

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## More... *Construct* Field Display Practice

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**Sam’s “after”** *Sam applied the cues and guidelines for construct display fields, and built this ~Bit, which he tagged, “Parts of Internet”:*

This list include the parts of the Internet:

- massive quantity of information, including e-mail and Telnet services,
  - 17-plus million participants,
  - geographical sites in every industrialized nation,
  - software programs, like TCP/IP and Fetch, *and*
  - nearly two million host and client computers, linked by —
    - telephone modem, *or*
    - local area network.
- 

**Sal’s “after”** *Sal applied the cues and guidelines for construct display fields, and built this ~Bit, which she tagged, “The Internet Elephant”:*

This table tags and describes the major parts of the Internet, which—like an elephant—is more than the sum of its parts.

<b>Tag</b>	<b>Description</b>
people	17-plus million participants
hardware	<ul style="list-style-type: none"> <li>• nearly two million host computers and client computers</li> <li>• links via telephone modem or local area networks</li> </ul>
software	<ul style="list-style-type: none"> <li>• low-level—TCP/IP</li> <li>• high-level—Fetch</li> </ul>
information	<ul style="list-style-type: none"> <li>• electronic mail</li> <li>• Telnet</li> </ul>
location	<ul style="list-style-type: none"> <li>• industrialized nations</li> <li>• world-wide</li> </ul>

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## Process Field Display Practice

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### Directions

Read the following displays of process field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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### Process: “before”

*This text appeared in a recent publication about describing Internet:*

“For the time being though, I want to hammer home a few key points to help you understand at a more gut level how this setup all works. First, these Internet machines run software programs all the time, so when you use electronic mail or Telnet or most anything else, you actually use a software program. That point is important to understand because as much as you don’t need to know the details, I don’t want to mystify the situation unnecessarily. The Internet, despite appearances, is not magic (although you can find a newsgroup for magicians). Second, because it takes two to tango on the Internet (speaking in terms of machines), a software program is always running on both sides of the connection. Remember the client and host distinctions for machines? That’s actually more true of the software, where you generally change the term host to the term server . So, when you run a program on the Mac, say something like Fetch, which is an FTP client that retrieves files, Fetch must talk to the FTP server program that is running all the time on the remote machine. Third, FTP and Fetch are the high-level programs that you interact with, but low-level software also handles the communications between Fetch and an FTP server.”

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## More... *Process Field Display Practice*

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### Sam's "after"

*Sam reviewed the cues for recognizing process display fields. He applied the guidelines for text only, and built the following ~Bit body:*

"This is how the Internet setup all works:

1. Internet "surfers" connect to Internet host machines from a client machine —a network server or a telephone modem.
2. Surfers use a client machine to send electronic mail or search with Telnet.
3. Internet machines run software programs all the time.
4. The host machine's low-level software communicates with the client's low-level software.
5. An FTP client retrieves files from the FTP server program.

*Note: FTP and Fetch are both high-level software programs."*

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### Sal's "after"

*Sal reviewed the cues for recognizing process display fields. She applied the guidelines for text only, and decided to build the following linear process table:*

This table displays what happens when "surfers" use the Internet.

When	Who	Does What
1	Internet surfer	connects to Internet host machine from a client machine by a telephone modem or network.
2	Surfer	uses client machine to send electronic mail or access a remote network with Telnet.
3	Client machine	runs low-level and high-level software programs.
4	Host machine	runs low-level and high-level software programs.
5	Host machine	communicates with client machine with low-level and high-level software. <i>Example:</i> An FTP client retrieves files from the FTP server program.

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## Concept Field Display Practice

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### Directions

Read the following displays of concept field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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### Concept: “before”

*This text appeared in a recent publication explaining Internet:*

“So, if you cram the idea into your head that software makes the Internet go ‘round on both a high level that you see and a low level that you don’t see, you’ll be much better off in the future. Some people never manage to understand that level of abstraction, and as a result, they never understand anything beyond how to type the magic incantations they have memorized. Seeing the world as a series of magic incantations is a problem because people who do that are unable to modify their behavior when anything changes.

“I’ve tried to answer one of the harder questions around, “What is the Internet?” The simple answer is that the Internet is a massive collection of people, machines, software programs, and data, all spread around the world and constantly interacting. That definition, and the explication I’ve provided about the various parts of the Internet elephant, should serve you well as you look next at the history of the Internet.”

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### Sam’s “after”

*Sam used the cues for recognizing concept display fields. He applied the guidelines for concept display fields as follows:*

The *Internet* is a massive collection of people, machines, software programs, and data, all spread around the world and constantly interacting, like elephants.

*Sam decided to tag this concept display field, “**What is the Internet?**”*

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## More... *Concept Field Display Practice*

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**Sal's "after"**

*Sal used the cues for recognizing concept display fields. She tagged this concept display field, "Definition," applying the guidelines as follows:*

The *Internet* is a massive collection of –

- people,
- machines,
- software programs, *and*
- data.

The Internet is constantly interacting all around the world.

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## Principle Field Display Practice

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### Directions

Read the following displays of principle field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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### Principle: “before”

*This text appeared in a recent publication about connecting to Internet:*

“When you run NCSA Telnet, if you go the File menu and select FTP Enable, NCSA Telnet turns your Mac into a primitive FTP server. As with Peter Lewis’s FTP, be careful of this capability because it constitutes a possible security risk, especially because, in its default configuration, it allows everyone access to your entire hard disk. That’s a bad thing, so check your settings carefully.”

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### Sam’s “after”

*Sam applied the cues and guidelines for principle display fields, and built this ~Bit body, which he tagged, “**Note.**”*

You should be careful about selecting FTP Enable when you run NCSA Telnet. It’s a good thing to check your settings carefully, otherwise the default configuration allows everyone access to your entire hard disk.

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### Sal’s “after”

*Sal applied the cues and guidelines for principle display fields, and built this ~Bit body, which she tagged, “**Caution: security risk.**”*

Selecting FTP Enable when you run NCSA Telnet turns your Mac into a primitive FTP server.

*Guideline:* Choose a setting other than the default setting.

*Exception:* Choosing the default setting is a security risk.

It allows everyone access to your entire hard disk.

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## Metaconcept Field Display Practice

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**Directions**

Read the following displays of metaconcept field information, then decide which “after” version is better: Sam’s or Sal’s.

*Note:* Support your decision by references to cues and/or guidelines.

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**Metaconcept:  
“before”**

*This historical description appeared in a recent publication comparing Internet to the interstate highway system in the United States:*

“So if ARPA, now DARPA, had to justify the military applications of its research, what survived? Well, the ARPAnet did, and here’s why. As leaders of the free world (pardon the rhetoric briefly), we had to have the latest and greatest methods of killing as many other people as possible. Along with offensive research must perforce come defensive research; even the DoD isn’t so foolish as to assume we could wage a major war entirely on foreign soil. For this reason, the tremendous US interstate highway system served double duty as distribution medium for tanks and other military hardware. Similarly, the Internet’s precursor was both a utilitarian and experimental network. ARPAnet connected both military research sites (hardware was expensive and had to be shared) and as an experiment in resilient networks that could withstand a catastrophe—including, in the imaginations of the DoD planners of the day, an atomic bomb.”

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## More...*Metaconcept* Field Display Practice

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### Sam's "after"

*The word, "similarly," cued Sam that a metacognitive display field was hiding in this text. Using the guidelines, Sam built this ~Bit:*

The US interstate highway system served double duty for military and civilian transportation. In a similar way, Internet's precursor, ARPAnet, served double duty for linking sites doing military and civilian research about potential catastrophes.

*Sam decided to tag his ~Bit as, "Simile."*

---

### Sal's "after"

*The words, "distribution medium," suggested something shared in common between the familiar interstate highway system and the unfamiliar Internet. Applying the guidelines for metaconcept, Sal built this ~Bit:*

Internet's precursor, ARPAnet, is related to the interstate highway system just as data electronically distributed is related to vehicles geographically distributed.

*Sal decided to tag her ~Bit as, "Analogy."*

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## Analogy: The Concept

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### Rule

Use an analogy when workers –

- need to know a relationship to perform a task, *and*
  - know a relationship in another situation, but not for this task.
- 

### Analogy



An *analogy* is a comparison of relationships within a known context to relationships within an unknown context. The relationship is either

- part to part,
  - part to whole, *or*
  - whole to whole.
- 

### Proportion

A proportion shows the relationships in an analogy, and may appear in either of these displays:

- $A : B :: C : D$ , *or*
- $A/B = C/D$

where A and B represent a known relationship, *and*  
where C and D represent an unknown relationship.

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### Guideline

Apply this guideline when you read *analogy* displays.

You should read an analogy display as follows: “A is to B as C is to D.”

---

### Examples

Three examples of *analogy* appear here:

1. A stem is to an apple as a stem sentence is to a Know Bit body.

stem = stem sentence  
apple    KnowBit body

2. A paragraph is to a page as a KnowBit is to a KnowByte.

paragraph = KnowBit  
page            KnowByte

3. A page is to a chapter as a KnowByte is to a KnowBatch.

page = KnowByte  
chapter    KnowBatch

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**Practice — Reacting to and Adapting “Analogy: The Concept”**

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**Directions**

Apply the guidelines for displaying fields with text and graphics to the document on the facing page, “Analogy: The Concept.”

- Discuss the document with a colleague.
  - Note in the space below any improvements you think it needs.
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**Improvements**

Our suggestions for improving “Analogy—the Concept” are:

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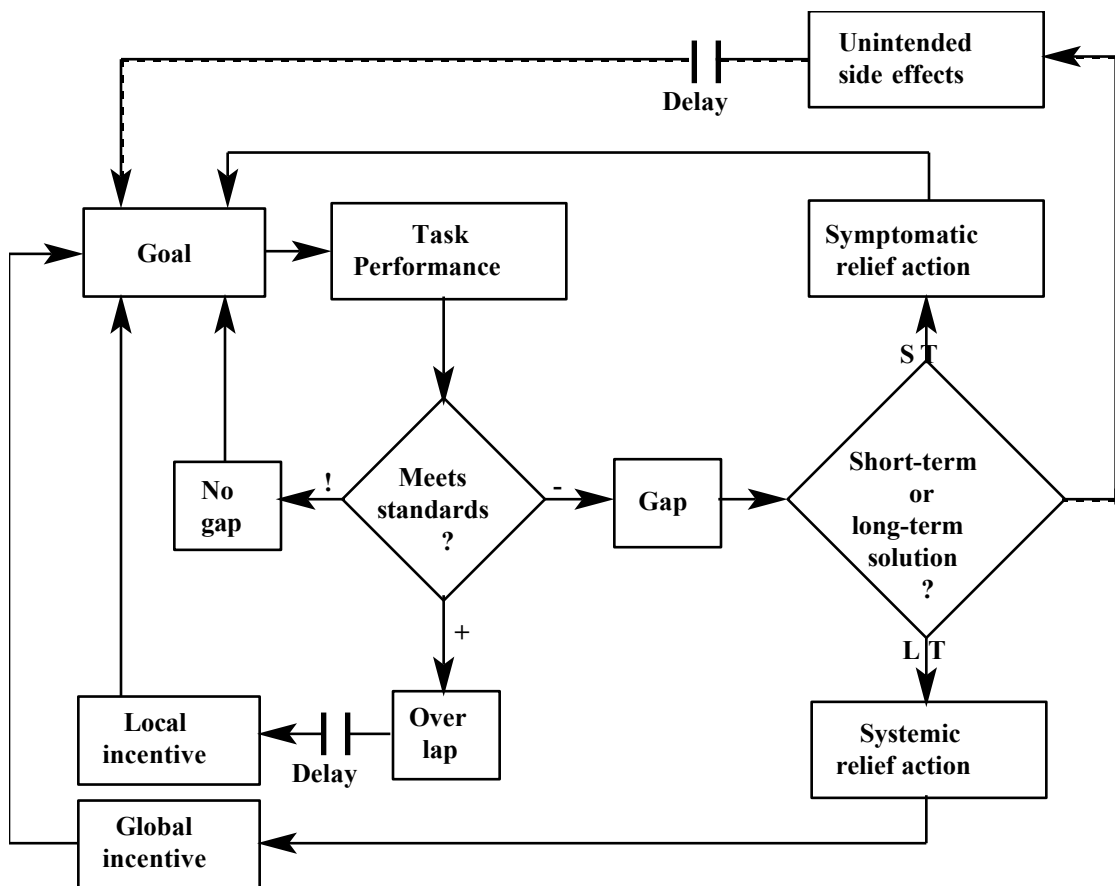
## Practice — R&B Process Loops

**Introduction** This practice opportunity allows you to react and adapt to the concepts of loops and delays displayed within a complex process flow diagram.

**Directions** Decide whether you should adapt this looping process diagram.

- Trace the loops in the diagram, then decide which loops are –
  - balancing loops.
  - reinforcing loops.
- Decide if the delays are accurately displayed.

*Note:* One model solution appears on the next page.



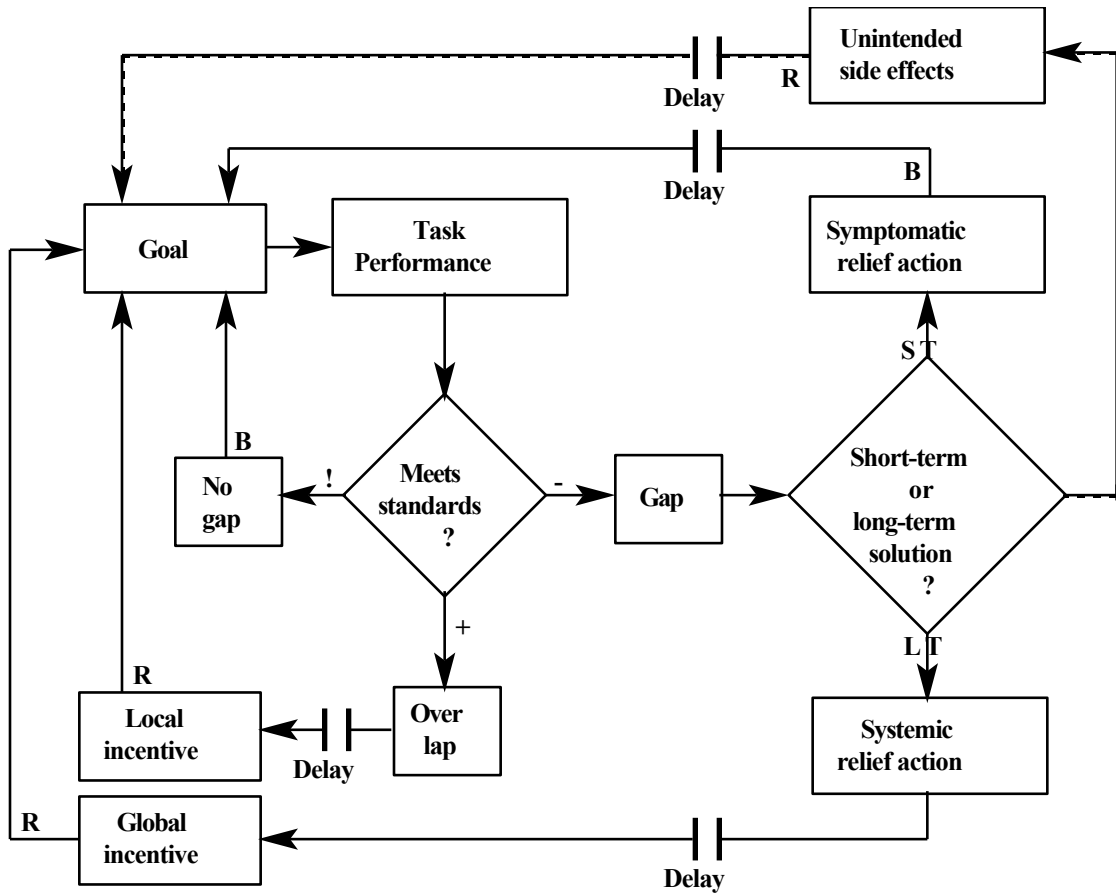
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More...R&B Process Loops

Model solution

This looping process diagram is only one acceptable model solution.



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