FACHHOCHSCHULE SALZBURG
SALZBURG UNIVERSITY OF APPLIED SCIENCES

GUEST LECTURE
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GIVING PRESENTATIONS /
DIAGRAM DESCRIPTION

Rome, La Sapienza
January 2008
1. General Guidelines and Useful Vocabulary

The following guidelines and useful phrases are taken mostly from the following source: Powell Mark. *Presenting in English. How to Give Successful Presentations*. Language Teaching Publications, 1996.

**PRESENTATION OPENING**

Perhaps we should begin. or OK, let’s get started.
Good morning / afternoon / evening, everyone.
Ladies and Gentlemen, it’s a pleasure to be here today and have the opportunity to talk about ....

Thanks for coming. I’m …………. And, as you know, I.

………………………………………………………………………………………………………………………………

This morning /afternoon / evening I’m going to be - talking to you about
- telling you
- showing you
- reporting on
- taking a look at

………………………………………………………………………………………………………………………………

So, I’ll start off by - filling you in on the background to
- bringing you up-to-date on
- giving you an overview of
- making a few observations about
- outlining

………………………………………………………………………………………………………………………………

And then I’ll go on to - highlight what I see as the main
- put the situation into some kind of perspective
- discuss in more depth the implications of
- talk you through
- make detailed recommendations regarding

………………………………………………………………………………………………………………………………
EFFECTIVE OPENINGS

Communications experts are all agreed that the first three minutes of a presentation are the most important. They talk about ‘hooks’ – simple techniques for getting the immediate attention of the audience.

A good start makes you feel more confident. Here’s how the experts suggest you ‘hook’ your audience:

1. Give them a problem to think about.
2. Give them some amazing facts.
3. Give them a story or personal anecdote.

Examples:

PROBLEM
Suppose your project budget was cut by 99% tomorrow. How would you go about achieving the project goals?

AMAZING FACTS
According to the latest study, by 2050 only one in every four people in Western Europe will be going to work. And two will be old age pensioners.

STORY / ANECDOTE
Have you ever been in a situation where you’ve had to negotiate with the Japanese? I remember when I was working in Nagoya and everybody had told me the Japanese don’t like saying no. So in meetings I just kept saying yeah to everything. And they hated it. It turned out yeah sounds like no in Japanese!

SIGNPOSTING

In a good presentation, what you say – the content – is much more important than anything else. But a clear structure helps. When you move on to your next point or change direction, tell the audience.

You can do this easily and effectively, using simple phrases as ‘signposts’ to guide the audience through your presentation:

<table>
<thead>
<tr>
<th>To move on</th>
<th>To go back</th>
<th>To summarize</th>
</tr>
</thead>
<tbody>
<tr>
<td>To expand on</td>
<td>To recap</td>
<td>To turn to</td>
</tr>
<tr>
<td>To digress</td>
<td>To conclude</td>
<td>To elaborate on</td>
</tr>
</tbody>
</table>

REFERRING TO VISUALS

I’d like you to look at this ...
Let me show you ...
As you can see ...
Let’s have a look at ...
Let’s look at ...
If you look at the screen, you’ll see ...
This table/diagram/chart/slide shows ...
On the right/left you can see ...
Have a look at ...
Look at ...
FOCUSING

If you really want to get the attention of your audience, simple emphasis may not be enough. In English there is a way you can focus key points so that everyone knows you want them to listen to what you have to say next. Look at these examples:

“We can't expect too much too soon.”
“What we can’t do is expect too much too soon.”

“I’d like to approach this question from two different angles.”
“What I’d like to do is approach this question from two different angles.”

Notice how the ‘What ... is ...’ pattern builds up the anticipation of the audience.

RHETORICAL QUESTIONS

You can make a rhetorical question much more powerful by repeating key words. The following pattern is common:

Statement + Rhetorical Question + Answer

“The fact is, cheap imitations of our leading product are flooding the market. So what’s the SOLUTION? The SOLUTION is to push for tighter CONTROLS.”

Notice the repetition of solution linking question and answer.

DRAMATIC CONTRASTS

Good presenters frequently make use of dramatic contrasts to reinforce the point they are making.

“Ten years ago we had a reputation for excellence. Today we’re in danger of losing that reputation.”

“While our competitors have been fighting over the European market, we’ve been establishing ourselves as market leaders in the Middle East.”

People are very aware of simple opposites – good and bad, past and present, us and them. And if you can make your point with two strongly opposing ideas, you will immediately get the attention of your audience.

TRIPLING

Look at the following presentation extract. Listen to how the voice rises and falls. Notice the simple technique:

“How did we reach our goals?” (Rhetorical Question)
“Simple.” (Short Response)
“By building a new plant, (Three-Part Answer)
by taking on more workers,
by keeping production cost down.”

Notice also the effect of repetition: ‘by building ... by taking .. by keeping’.
**ENDING A PRESENTATION**

Finishing the presentation well is as important as the opening as this is the last impression that you will leave on your audience. The following phrases may help you. Additionally, you might consider to use a relevant quotation for the concluding slide.

<table>
<thead>
<tr>
<th>Summing up</th>
</tr>
</thead>
<tbody>
<tr>
<td>So, to sum up, ...</td>
</tr>
<tr>
<td>To summarize, ...</td>
</tr>
<tr>
<td>To recapitulate/recap, ...</td>
</tr>
<tr>
<td>Let me now sum up.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Let me end by saying ...</td>
</tr>
<tr>
<td>I’d like to finish by emphasizing ...</td>
</tr>
<tr>
<td>In conclusion I’d like to say ...</td>
</tr>
<tr>
<td>Finally, may I say ...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Making a recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>So, what I would suggest is that we ...</td>
</tr>
<tr>
<td>So, I would recommend that the ...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Handouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’ll be distributing the handouts in a few moments.</td>
</tr>
<tr>
<td>The handouts are over by the door.</td>
</tr>
<tr>
<td>Copies of my transparencies/slide are on the table by the door.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you have any questions or comments, I’ll be happy to answer them.</td>
</tr>
<tr>
<td>If there are any questions, I’ll do my best to answer them.</td>
</tr>
<tr>
<td>Are there any more questions?</td>
</tr>
<tr>
<td>I’ll be happy to answer any questions, but I’d like to hold the last few minutes for a summary.</td>
</tr>
<tr>
<td>If anyone has any questions or comments to start us off ...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Closing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thank you for your attention/time.</td>
</tr>
<tr>
<td>Thank you for listening.</td>
</tr>
<tr>
<td>Thank you very much.</td>
</tr>
</tbody>
</table>
DEALING WITH QUESTIONS

When someone in the audience asks you a question, it’s a good idea to comment on it before you actually answer it. This gives you time to think. There are four basic types of question.

GOOD QUESTIONS
Thank people for asking them. They help you to get your message across to the audience better.

Good point.
I’m glad you asked that.
That’s a very good question.
Thank you for this question. It’s really relevant /essential to ‘

DIFFICULT QUESTIONS
These are the ones you can’t or prefer not to answer. Say you don’t know, offer to find out or ask the questioner what they think.

I don’t know that off the top of my head.
Can I get back to you on that?
Interesting. What do you think?
I’m afraid I’m not in a position to comment on that.
I’m afraid I don’t have that information with me.

UNNECESSARY QUESTIONS
You have already given this information. Point this out, answer briefly again and move on.

I think I answered that earlier.
Well, as I said ...
Well, as I mentioned earlier,...

IRRELEVANT QUESTIONS
Try not to sound rude, but move on.

I am afraid I don’t see the connection.
Sorry, I don’t follow you.
To be honest, I think that raises a different issue.

QUESTIONS
1. What exactly did you mean by ..................?
2. Could we go back to what you were saying about.........?
3. How did you arrive at the figure of ......................?
4. I think I misunderstood you. Did you say ..................?
5. You spoke about ...................... Can you explain that in more detail?
6. Going back to the question of ............................ Can you be more specific?
7. You didn’t mention ...................................... Why not?
8. If I understood you correctly, ..........................Is that right?
9. I`m not sure I fully understood ............ Can you run through that again, please?
10. There’s one thing I`m not clear about: ......Could you go over that again, please?
11. Could you expand on what you said about ...................?
12. Where did you get your information on ...................?
13. Are you in a position to tell us whether ......................?
14. Do you have (precise) figures for ............................?
15. Can you tell us how you arrived at the figure of ..............?
16. What (real) evidence is there that.........................?
17. How can you be (so) sure that .....................................?
18. How do we know that .............................................?
19. I`m not (really) convinced that .........................
20. How do you justify ........................................................?
21. I`d like to take you up on what you said about ............... 
22. Do you (honestly) expect us to believe that .................?

*If you add the word in brackets it makes the question more hostile.*

The following tips provide a useful reference source when planning your presentation (source *Business Spotlight*, 2007)

**STEP ONE: GOOD PLANNING**

Planning is the key to a good presentation. This means considering the three “Ps”: people, place and purpose.

**People**

Think about your audience. Everything should be geared to its needs and expectations. So, who are they? What do they need to know? Do they want to just listen or to contribute? Do they prefer a flexible style to rigid structure? Do they see informality as a lack of professionalism? Do they see digression as irrelevant? Think also about cultural differences. It is said that, typically, German audiences love to hear facts; US audiences expect a show; and Italian audiences love to participate.

**Place**

If possible, visit the room beforehand. How big is it? Are the acoustics good? How is the seating organized? Where can you stand to show visuals? Do you have the necessary equipment? Can you check that it works?

**Purpose**

Why are you giving the presentation? This must be absolutely clear – both to you and your audience. Are you looking to inform, educate, persuade, entertain, motivate, get feedback, impress or create a relationship? Do you have a hidden agenda?

**STEP TWO: GETTING STARTED**

**Organization**

When choosing content, follow a four-step process:

- first, collect ideas
- next, select the most useful ideas for your objective
- thirdly, group the points into logical units
- finally, sequence these units to create a clear thread

**Introductions**

Remember, too, that first impressions count. You can win or lose an audience in the first few minutes. So, choose elements from the classic introduction (*greeting, thanks to audience, name and job position, presentation title and/or subject, objective, structure, main points, timing, say when you would like questions, link to first section*) to help you make a professional start. Remember to make your objective very clear. But you should also plan to hook your audience at the beginning, to create an impact that will engage them and build interest for the whole presentation. Here are three simple techniques to do just that:
Surprise your audience
“Did you know that Cisco does 80 per cent of its training online? Now you know why I’m talking about e-learning today.”

Make an offer
“Imagine a consultant who could sell you a 20 per cent increase in your productivity in 12 months. Well, don’t just imagine it. That’s what I intend to do today.”

Use rhetorical questions
“Ok. Why are we here today? Well, the subject is quality. Why quality? Because without it, you can’t succeed.”

STEP THREE: DELIVERING

Psychologist and author Albert Mehrabian once famously analysed communication as being seven percent verbal (the words we use), 38 per cent voice (tone, volume, etc.) and 55 per cent body language. While one can argue about these percentages, successful presenters clearly manage all three elements well.

Verbal
Language is the packaging for your message. Different forms and structures can enhance your message significantly. Focus on the following areas:

Clarity
Structure your presentation explicitly and use “signalling” or “signposting” language to guide the audience. For example: “OK, that brings me to the end of the first section. Now I’d like to move on to the second point.” Also, remember the somewhat clichéd but still relevant rule of “KISS”: keep it short and simple. Use the sort of language your audience will understand.

Impact
In today’s ultra-competitive business world, it is essential to be persuasive. There are a number of techniques:

- Repeating: repeat key points, using synonyms: “Our solution is very cheap, ultra-fast and extremely reliable.”
- Contrasting: this technique gives your information a clearer focus: “Last year was only average. This year is exceptional.”
- Simplifying: simpler language can communicate more effectively: “No profit? Solution? Invest! Acquire!”
- Questioning: rhetorical questions vary your rhythm: “So what is the problem? The problem is cash flow.
- Energizing: add energy by punctuating strongly with filling words: “OK .../So .../Right”
- Engaging: establish rapport with your audience by including an interesting personal anecdote.

Personal Style
The words and phases we use are often a question of personality, as is our style of delivery. It is important to know your strengths and weaknesses and adapt to the needs of your audience. Be aware of whether you make the sound “er” (or “uh”) when you hesitate. This is very distracting. It is better to think in silence. Record yourself – more than one “er” a minute is too many.

Voice
Using your voice effectively may involve changing the way you usually speak. Record yourself speaking. Good speakers also use sentence stress to highlight the key words, as well as pauses and rhythm to create a natural, dynamic delivery.
Body Language
This is a subject that is often complicated by cross-cultural factors. Your audiences may have very strong expectations of how you look and how you move. Probably the best advice is simply to be yourself. If you are relaxed and confident, your body will follow and communicate that naturally. However, there are some things you can do to enhance your performance:

- **Move a little.** Don’t become too static. When taking a question, move toward the questioner.

- **Keep strong eye contact.** This suggests sincerity.

- **Maximize your body square.** Most of the time, your hands/arms should occupy the square between your shoulders and waist, with hands together or apart.

- **Use fingers when describing points with numbers:** raise your thumb for point one, thumb and index finger for point two and so on. The back of your hand should face the audience.

Finishing off a Presentation and Questions
Psychologists tell us that we remember best what is said at the beginning and at the end of a presentation. A strong finish is therefore essential. Make sure that you summarize clearly the main points of your talk, have a simple, short message your audience will remember; and have time for questions.

The question phase of a presentation is the most challenging, as it is the least predictable. Try to anticipate the questions that you might receive, especially the critical ones, and prepare answers. This will enable you to remain confident and to appear authoritative. Also, don’t be afraid to use the trick of planting someone in the audience to ask a first “friendly” question.

When taking questions, remember the simple acronym RACE as a step-by-step guide of what to do:

**R = Respond**
This may be a positive response or a clarification of the meaning of a question. Clarification will mean you don’t waste time answering the wrong question.

**A = Answer**
Keep your answer concise and, if possible, link back explicitly to something you said in your presentation.

**C = Check**
Always check with the questioner that you have answered the question. In more interactive meetings, you can always ask the questioners for their thoughts and opinions.

**E = Encourage**
This means invite, or ask for, more questions. Be sure to allow time for people to formulate their questions.

When questions are over, politely thank the audience for their attention. Plan to give them one more final message or observation to take away before you finish, and accept the rapturous applause!
2. INTRODUCING VISUALS

**TASK**: Name the different types of visuals (organigram, graph, table, plan, matrix, pie chart, bar diagram, etc.)

![Visuals Diagram]

**Note**: If you do not know the name of a specific type of visual in a presentation, simply say:

*Have a look at this.* (British English)

*Take a look at this.*  (American English)

*As you can see, here ....*

**TASK**: Effective presenters introduce and highlight information briefly and clearly. Write the following sentence fragments in the correct order to make complete presentation extracts.

**EXTRACT 1**

1. see, it’s a fairly typical growth
2. Have a look at
3. stages if its development. The vertical axis
4. and the horizontal
5. this graph. As you can
6. shows turnover in millions of dollars
7. curve for a young company in the early
8. axis represents the years 1990 to 1996

**EXTRACT 2**

1. productivity of our European
2. levels in the Netherlands, shown
3. looking at very clearly
4. plants, and gives you some
5. The graph we’re
6. here, exceed the rest
7. idea of how far production
8. demonstrates the comparative
### Correct Order

1. products. Let’s take a closer
2. position of six of our leading
3. which shows the current
4. movement in the high
5. to look at this chart
6. growth sector
7. look for a moment at product
8. I’d like you

### Introducing Visuals

**TASK:** These expressions highlight important information in a visual. Complete them using the following words: *on, to, at, out, about*

<table>
<thead>
<tr>
<th>I’d like (you)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>us to look</strong></td>
<td></td>
<td>this part of the graph in more detail.</td>
</tr>
<tr>
<td><strong>us to focus our attention</strong></td>
<td></td>
<td>one particularly important feature.</td>
</tr>
<tr>
<td><strong>to think</strong></td>
<td></td>
<td>the significance of this figure here</td>
</tr>
<tr>
<td><strong>to point</strong></td>
<td></td>
<td>one or two interesting details.</td>
</tr>
<tr>
<td><strong>to draw your attention</strong></td>
<td></td>
<td>the upper half of the chart.</td>
</tr>
</tbody>
</table>

**TASK** These expressions comment on important information in a visual. Complete them using the following words: *if, as, whatever, whichever, however*

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>you can see, there are several surprising developments.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>you look at it more closely, you’ll notice several apparent anomalies.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>you try to explain it, this is very bad news.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the reasons for this, the underlying trend is obvious.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>way you look at it, these are some of our best results ever.</td>
<td></td>
</tr>
</tbody>
</table>
**TASK:** These expressions interpret important information in a visual. Complete them using the following words: lesson, message, significance, conclusions, implications

- to be drawn from this are
- to be learned from this is
- of this are
- of this is
- here is

**Useful words and expressions:**

- just over
- about/around
- well over
- nowhere near
- just under
- approximately
- well under
- nowhere near
- just short of
- roughly
- getting on for
- more or less

**TASK** Prepare a visual which is relevant to your work, study or interests. Present it, using the suggested expressions to help you.

**Introduction and Explanation:**

Take a look at this/Let’s have a look at this/ I’d like you to look at this. Here we can see...

The x-axis/yellow bar/green line represents ....

And the y-axis/...... represents ..... 

**Highlights and Comments:**

I’d like us to look at ... in more detail. As you can see, ....

I’d also like to draw your attention to ..... 

If you look at it more closely, you’ll notice that ......

**Interpretations:**

I’m sure the implications of this/the conclusion to be drawn from this are clear to all of us.
3. SCHEMATIC DIAGRAMS

These types of diagrams are usually used to show the main components and set-up of a system. When describing these it is useful to follow this pattern:

- introduce the visual / draw the audience’s attention to it
  
- give its main purpose

- name the main components and define technical terms where necessary
  
- explain the main functions

- give a concrete example how the system works

**WAN – Wide area network and worldwide communication**

![Diagram showing WAN communication](image-url)
Describing a telecommunications system: RADAR

- A transmitter generates the radio signal with an oscillator such as a klystron or a magnetron and controls its duration with the help of a modulator.
- A waveguide links the transmitter and the antenna.
- A duplexer serves as a switch between the antenna and the transmitter or the receiver for the signal when the antenna is used in both situations.
- A receiver.
- An electronic section that controls all the devices and the antenna to perform the radar scan ordered by a software.
- A link to the end users.

**TASK:** Work in pairs, student A and student B. Fill in the gaps in the block diagram and flow chart of a radar system with the help of your partner. The diagram for student B is on the next page.

**Student A:**

```
Transmitting antenna

Duplexer

if a target is hit...

Signal processor and Radar controller

radio signal is generated

signal is linked to antenna

a weak reflected signal is received

signal is amplified

signals and additional information is displayed
```
Student B:

When describing the system the following questions should be helpful:

1) What does the acronym RADAR stand for?
2) What is the general purpose of RADAR?
3) What does the RADAR system consist of?
4) What are the components of the transmitter?
5) Where is the signal generated?
6) What happens to it after that?
7) What happens to the reflected signal if a target is hit?
8) How does the receiver process the signal?
9) What happens to both signals finally?
4. DESCRIPTION AND PRESENTATION OF GRAPHS

4.1 Describing trends

**TASK:** which of these phrases indicate upward, downward or horizontal movement?

- fall
- climb
- rise
- even out
- decline
- hit a low
- recover
- reach a trough

- decrease
- drop
- improve
- deteriorate
- pick up
- reach a peak
- advance
- remain constant

- slip back
- go down
- remain stable
- increase
- slump
- soar
- gain
- hit a low

- stay level
- double
- halve
- stay the same
- go up
- bottom out
- fluctuate
- plunge

**Noun and verb phrases with prepositions**

**a. Increase**

**Verb phrases**
- to increase by/to
- to rise by/to
- to go up by/to

**Noun phrases**
- an increase of/to
- a rise of/to

**b Decrease**

**Verb phrases**
- to drop by/to
- to go down by/to
- to decrease by/to
- to fall by/to

**Noun phrases**
- a decrease of/to
- a fall of/to
- a drop of/to

**C Others**

- to stand at
- to remain constant at

**Examples:**
1. In year 5 capacity increased **by** 200 MW. (relative value)
2. In year 5 capacity increased **to** 12,200 MW. (absolute value)
3. In the 7th year we saw a decrease **of** 400 MW. (relative value)
4. In the seventh year we saw a decrease **to** 12,000 MW. (absolute value)
5. In the first year our capacity stood **at** 10,900 MW.
6. In the 6th year the generating capacity reached a peak **of** 12,400 MW.
7. In year 3 the energy demand remained constant **at** 11,200 MW.
Expressions for modifying the description of trends and developments

**Adjectives/Adverbs indicating the speed or rate of change**
- Constant /ly
- Fast
- Gradual /ly
- Rapid /ly
- Sharp /ly
- Slow /ly
- Steady /steadily
- Sudden /ly

**Adjectives/Adverbs indicating the size of change**
- Order of intensity from highest to lowest
  - Slight /ly
  - Moderate /ly
  - Considerable /considerably
  - Negligible /negligibly
  - Substantial /ly
  - Dramatic /ally
  - Significant /ly
  - Noticeable /noticeably

Are there any other words you know of that could be used in this context?
**TASK:** One student should use the information below and the other should use the information on the next page.

**Student B:** Turn to the next page.

**Student A:** The graph below shows the sales figures of a company over a twelve-month period. Describe it to your partner, who should draw it.

Now listen to your partner’s description of the energy costs of a smaller company over a period of twelve months.
**Student B:** Your partner is going to give you some information about a company’s sales figures over a twelve-month period. As you listen to the information, complete the graph below. After you have completed your graph, compare it with your partner’s.

![Sales Figures Graph](image)

Now look at the information below about the energy costs of a company over a period of twelve months. Describe it to your partner.

![Energy Consumption Graph](image)
4.2 Describing graphs in electronics:

**TASK:** Study this graph which shows what happens when a voltage is applied across a silicon junction diode. Which of the phrases used so far could be applicable in this context?

![Graph showing voltage versus current for a silicon junction diode.]

The first quadrant shows the characteristics of the diode when it is forward biased. When the voltage is increased, at first the current \[\text{increases slowly}\]. When the voltage reaches about 600mV there is \[\text{a sharp increase}\]. The current continues to rise as \[\text{a rapid rise in current}\] but eventually a point is reached where the diode would be destroyed by heat.

The third quadrant shows what happens when the diode is reverse biased. There is \[\text{almost no current flow}\]. The diode is therefore a good rectifier. It conducts well in one direction and almost not at all in the other. However, there is \[\text{a slight increase}\] in reverse current. This leakage current \[\text{remains constant}\] until what is known as breakdown voltage. At this point there is \[\text{a sharp increase}\] in the reverse current. This sudden increase is called the Zener effect.

5. PROCESS DESCRIPTIONS

This example shows the basic process of chip fabrication. The text below the flow chart provides a very compact description of the steps involved. This text could be made even more efficient if so-called sequence markers were added.

**Sequence Markers**

We use these so that the listener can easily follow the order of the process from first to last step.

**Appropriate phrases**

- first/to start with
- then /next
- before entering
- after removing /having removed/ once
- now / at the next stage
- finally/last/lastly/ eventually /ultimately

**Example**

At the next stage these areas are showered with ions.

**Introducing Technical Terms**

In order to emphasise technical terms, rhetorical phrases are used. This makes it easier for the listener to distinguish between common language and specific terms.

**Appropriate phrases**

- it´s known as/called
- which is known as/called
- it is referred to as

**Example**

At the next stage these areas are showered with ions, a process called doping.

**Expressing Purpose**

We use this to indicate why a certain step in the process is carried out in a specific way.

**Appropriate phrases**

- to ...
- in order to ...
- so that ...
- in order that ...
- because ...

**Example**

At the next stage these areas are showered with ions in order to change the atomic structure and make these regions become electrically charged.
CHIP FABRICATION occurs as a cycle of steps carried out as many as 20 times. Many chips are made simultaneously on a silicon wafer, to which has been applied a light sensitive coating (1). Each cycle starts with a different pattern, which is projected repeatedly onto the wafer (2). In each place where the image falls, a chip is made. The photosensitive coating is removed (3), and the light-exposed areas are etched by gases (4). These areas are then showered with ions (or “doped”), creating transistors (5). The transistors are then connected as successive cycles add layers of metal and insulator (6).

("Technology and Economics in the Semiconductor Technology" in "Scientific American" 1/96)

Useful Online Reference Sources:
Merriam-Webster Online http://www.m-w.com/
provides definitions and sample sentences as well as synonyms through its Thesaurus function
Cambridge Dictionaries Online http://dictionary.cambridge.org/
lets you search some of their popular publications such as the Advanced Learner's Dictionary, more features can be activated through registration (fee)
Atis Telecom Glossary 2000 http://www.atis.org/tg2k/
WhatIs.com Definitions, Computer Terms and Tech Glossaries http://whatis.techtarget.com/

Purdue University's Online Writing Lab http://owl.english.purdue.edu/handouts/index.html
a very comprehensive collection of handouts on a wide range of grammar and stylistic aspects of producing good texts including some exercises
apart from grammar chapters, there are a number of links to useful tips and exercises including an assessment test to find out how good your grammar currently is