Young’s Laws

1. Tell a story, and don’t be afraid of I and we (active voice)

   We placed tubes into the cylinder at different levels.
   
   not

   Tubes were placed into the cylinder at different levels.

   Hence, Young’s First Law:

   Write the way you talk;
   then polish

2. Use short sentences with explicit descriptions

   Hence, Young’s Second Law:

   Write one thought per sentence
   (or, at least, one thought per independent clause)

3. Write for your readers, not for yourself (bright h. s. student?)

   Hence, Young’s Third Law:

   Write for the uninformed reader

   Do not write for someone who already knows what you know [Write for someone one educational level below yours, for example]

   Do not assume anything is obvious [Data do not stand for themselves; they must be interpreted.]

4. Young’s Zeroth Law (the most critical):

   Do not listen to anyone else

http://www.mines.edu/Academic/courses/physics/phgn471/wrttnpsntatn.htm
<table>
<thead>
<tr>
<th>Expert Writers</th>
<th>Novice Writers</th>
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<tbody>
<tr>
<td>Concentrate on conveying meaning</td>
<td>Concentrate on mechanical features such as grammar, spelling</td>
</tr>
<tr>
<td>Perform mechanical skills automatically</td>
<td>Often lose sight of the meaning they want to convey</td>
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<tr>
<td>Revise after solid first draft, edit, edit, edit, etc., etc., etc.</td>
<td>Focus on individual words and sentences</td>
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<tr>
<td>Draw from a broader, deeper, interconnected network of knowledge</td>
<td>Revise superficially, proofread rather than edit</td>
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<tr>
<td>Survey what they already know, need to know, and how they relate</td>
<td>Draw from a more sparse network of content and discourse knowledge [whatever that means]</td>
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<tr>
<td>Concentrate on larger chunks of text, emphasizing meaning</td>
<td>Spend less time surveying necessary knowledge</td>
</tr>
<tr>
<td>Combine what they know to construct new knowledge — synthesis or knowledge transformation</td>
<td>Write associatively, with 1 idea prompting next</td>
</tr>
<tr>
<td>Write for the reader — prose helps reader to understand</td>
<td>Perform knowledge telling — reiterate what they already know</td>
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<tr>
<td></td>
<td>Write for the writer — prose does not synthesize ideas for the reader</td>
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</tbody>
</table>
1. Vogue words [words that are in fashion and are overused or imprecisely used]
   Determine = measure, calculate, decide, learn, find out — It was
   determined = We decided [\(L \text{ and } g\) determine the period of a
   pendulum; all you can do is measure it]
   Create = write, design, build, draw [You design and build a weather station,
   not create it]
   Reasonable = ??? (and to whom?) [Do not use reasonable as a substitute
   for approximate or for good, fair]

2. Some repts weak on references, documentation
   What is the function of a reference?
   What good is private communication? [None unless the source is clearly
   identified with contact information]

3. Units and symbols — use unit symbols not complete spellings (minor
   exceptions [a few kelvins \(\text{not } 300\) kelvins])
   Use ampere \(\text{not } \text{Amp}\), kelvin \(\text{not } \text{Kelvin}\) \((\text{but } A \text{ and } K\) [symbol is
   capitalized when unit is named for person; see
   \(\text{http://www.mines.edu/~mmyoung/numbers.pdf})\); micrometer \(\text{not }
   \text{micron}\)
   \(5E06 \rightarrow 5 \times 10^6\)
   Avoid \(*\) for multiplication
How to customize Microsoft (ugh!) Word

You need to be able to type

Super- and subscripts

Equations

Symbols

Examples

\[ x^2 \text{ not } x^\text{2} \quad x_2 \text{ not } x_\text{2} \]

\[ \text{kg} \cdot \text{m/s}^2 \text{ not } \text{kg} \cdot \text{m/s}^\text{2} \quad 3 \cdot 10^8 \text{ not } 3E08 \]

\[ y = \frac{mx + b}{\sqrt{1 - \frac{v^2}{c^2}}} \text{ not } y = (mx+b)\left[1-(v^2/c^2)\right]^{1/2} \]

So: Tools \rightarrow Customize \rightarrow Commands \rightarrow Format

Superscript, Subscript (drag to toolbar)

Tools \rightarrow Customize \rightarrow Commands \rightarrow Insert

Equation, Symbol (drag to toolbar)

And lots more (you can also remove useless icons)
4. Lawyer’s words — be less formal
   Said techniques, aforementioned report — There are not There exist

5. Capitalization and punctuation
   • detector circuit not Detector Circuit — capitalize only names and trade names [no ugly ® on someone else’s trademarks]
   • We have a dog and a cat not We have a dog, and a cat; We ate and drank not We ate, and drank

6. Use will not would (more forceful)
   • The experiment would = The experiment will
   • After rinsing it, I would clean = After rinsing it, I cleaned
   • Please give me your approval to continue; when I receive it, I will ..., not if I receive it would ... [but be careful not to seem pushy, as in I await your approval and will ....]

7. This without antecedent — I have tested a pump that works at 10^{-6} Torr. This is needed to.... (What is needed? The pump, the pressure, or the testing?) [Never start a sentence with This unless This modifies a noun. Well, hardly ever.]

8. Circumlocutions and dead (unnecessary) words
   • In the process of, serves to, it has been shown or found that, it is the case that
   • Control of the experiment is accomplished by = The experiment is controlled by. Eclosion of the moths occurs in June = The moths eclose in June

9. Dangling and misplaced modifiers [never mind the difference]
   Make sure that any -ing or -ed word that begins a sentence refers to the subject of the sentence [also by + -ing or -ed word; deep down, these are verbs and demand subjects]
   • Partly assembled and dirty, I disassembled the pump
   • By adjusting the initial conditions, a galaxy will form
Unclear, awkward, or just plain poor writing

Deanna Young

Passive voice abuse
To maximize induction, the most turns of coil possible was needed. The sizes of coils were selected with radii of 3.3 cm. Each coil was constructed with 1000 windings. The windings were kept at 1000 due to the limited amount of wire. Once the best arrangement and size had been determined, a coil with a greater or lesser number of loops will be developed.

We require as many turns as possible to maximize induction. We selected coils with radii of 3.3 cm. Each coil had 1000 windings because we had limited wire. When we decide on the best configuration and diameter, we will fabricate a coil with more or fewer turns.

A test was chosen that would ... or, better, We chose a test that would ....

Misplaced modifiers and circumlocutions
By placing a resistor at the front of the amplifier filter circuit, a current will be allowed to flow causing a force on the system opposite any motion. Placing a resistor ... allows a current to flow. The current causes ....

In terms of magnets, the horseshoe magnet used from the previous semester was tested. We tested the horseshoe magnet used last semester. [Or, if it is a new paragraph or topic, As for the magnets, we tested ....]

After mixing with a needed hardener ($10 a gallon), only about 3 quarts will be needed. We will need only about 3 quarts of epoxy once it is mixed with a required hardener, which costs $10 a gallon.
Rubber stoppers will be applied around the edge of the base in order to avoid human laceration injuries. → We will attach ... to prevent human laceration injuries.

Unfortunately, due to the weight of the panels, the torque placed on this bracket could possibly cause the shape of the bracket to distort and therefore would be cause a safety hazard. Exactly what is the hazard here? [distort the bracket wd be even better.]

**Comma-Kazes!** [They can make you comma-bose.]

The mechanism will be a somewhat simple device, consisting of a semicircular piece of steel with holes in it, which will be connected to the bottom panel, and a pin-spring system, which will be attached to the top panel, by four bolts. → The mechanism will be simple and consist of a semicircular piece of steel with holes in it. This piece will be connected to the bottom panel. A pin–spring system will be attached to the top panel by four bolts.

**Naked “this,” “these,” and “it”**

This force eventually overcomes the force of static friction, and the spring will pull the block back to equilibrium along the cardboard. This occurs because.... What occurs? Overcoming? Pulling?

An emf will be induced in the coil when there is a change in magnetic flux; this is caused by ground motion. What is caused? The change? The flux? The emf?

It was not plausible to categorize the slopes from topographic maps without extensive analysis. These would be less accurate and not worth the time involved. What would be less accurate? Maps? Analyses? Slopes?

Acknowledgement. I mercilessly adapted some overheads from Jon Leydens and Deanna Young. Remember: When you steal from one author, it’s plagiarism; if you steal from many, it’s research. (Wilson Mizner)