EDITING TECHNICAL DOCUMENTS

College of Engineering
Fall Writing Workshop

Tamara Robinson, ERGP Editor
Top 10 Common Writing Mistakes

10. **Redundancy** – the use of more words than necessary to convey meaning

**Examples:**
- They were *both* alike
- *a total of* 68 participants
- has been *previously* found
- *one and* the same
- *period of* time
- *absolutely* essential

- summarize *briefly*
- four *different* groups
- small *in size*
- in *close* proximity
- the reason is *because*
- *completely* unanimous
9. Incorrect Parallel Structure - parallel ideas are not presented in a parallel or coordinating form

Examples:
Incorrect –
Results show that such changes could be made without affecting error rate and latencies continued to decrease over time.

Correct –
Results show that such changes could be made without affecting error rate and that latencies continued to decrease over time.

Incorrect –
Mary wanted to make sure she made her presentation creatively, effectively, and persuaded others.

Correct –
Mary wanted to make sure she made her presentation creatively, effectively, and persuasively.
8. **Misrepresentation of Numbers** - In general, numerals are used to express numbers 10 and above and words are used to express numbers below 10.

**Numbers Expressed in Numerals:**
- 12 cm wide
- The remaining 10%
- 25 years old
- the 15th trial
- 13 lists
- 105 stimulus words

**Numbers Expressed in Words:**
- one fifth of the class
- two-thirds majority
- Twelve students improved, and 12 students did not improve.
**Special cases –**

- Numbers that immediately precede a unit of measurement (a 5-mg dose, 10.54 cm of . . .)
- Numbers that represent statistical or mathematical functions, fractional or decimal quantities, percentages, ratios, and percentiles (multiplied by 5, 3 times as many)
- Numbers that represent time, dates, ages, scores and points on a scale, and numerals as numerals (1 hr 34 min, 2-year-olds, scored 4 on a 7-point scale)
- Numbers that denote a specific place in a numbered series, parts of books and tables, and each number in a list of four or more numbers (Grade 8, Table 3, row 5)
7. Improper Use of Semicolons and Colons

**Semicolon** – part period and part comma ( ; ), used to indicate a close relationship between two independent clauses or separate elements in a series that already contain commas

**Examples:**
The participants in the first study were paid; those in the second were unpaid.

age, M=34.5 years, 95% CI [29.4, 39.6]; years of education, M=10.4 [8.7, 12.1]; and weekly income, M=612 [522, 702]
Colon – (∶), means “note what follows,” used before a list of items, before a long, formal statement or quotation, or between independent clauses when the second clause explains or restates the idea of the first clause.

**Examples:**
For example, Freud (1930/1961) wrote of two urges: an urge toward union with others and an egoistic urge toward happiness.

They have agreed on the outcome: Informed participants perform better than do uninformed participants.
6. **Lack of Subject/Verb Agreement** – The subject and verb of a sentence must agree in number, regardless of intervening phrases.

**Examples:**

*Incorrect* – The percentage of correct responses as well as the speed of the responses increases with practice.

*Correct* – The percentage of correct responses as well as the speed of the responses increase with practice.

*Incorrect* – The data indicates that Terrence was correct.

*Correct* – The data indicate that Terrence was correct.
Let’s practice what we have discussed so far!
Self-Editing Practice #1

In this study, the annual rainfall trends were analyzed using daily precipitation data from 1890 through 2011 in Kansas with three methods: linear regression model and Man-Kendall and Spearman tests. A gradual increase in total annual rainfall was found for 21 out of 23 stations with 7 significant trends and a greater increase for recent years (1951 through 2011) and eastern part. The average trend slope for the state is 68 mm/10yr with a minimum value of -85 mm/10yr for Saint Francis in Northwest and a maximum value of 20 mm/10yr for Independence in Southeast.
In this study, three methods were used to analyze annual rainfall trends in Kansas using daily precipitation data from 1890 through 2011: the linear regression model, the Man-Kendall test, and the Spearman test. A gradual increase in total annual rainfall was noted for 21 of 23 stations, including seven significant trends. A rainfall increase was observed during recent years (1951 through 2011) and for the eastern portion of the state. The average trend slope for Kansas was 68 mm/10yr, with a minimum value of -85 mm/10yr for Saint Francis in the northwest and a maximum value of 20 mm/10yr for Independence in the southeast.
5. **Ambiguous Pronouns** – Pronouns replace nouns. Each pronoun should refer clearly to its antecedent and should agree with the antecedent in number and gender.

**Examples:**

*Incorrect* –
Neither the highest scorer nor the lowest scorer in the group had any doubt about *their* competence.

*Correct* –
Neither the highest scorer nor the lowest scorer in the group had any doubt about *his or her* competence.
Ambiguous Pronouns, cont.

Incorrect –
The students *that* completed the task successfully were rewarded.

Correct –
The students *who* completed the task successfully were rewarded.

Incorrect –
One of the researchers *were* responsible for the statistical analysis.

Correct –
One of the researchers *was* responsible for the statistical analysis.

Incorrect –
*Those* pair of pups is coming closer.

Correct –
*That* pair of pups is coming closer.
4. **Incorrect Comma Usage** – Commas should be used to distinguish elements in a series, to set off a nonessential clause, to separate two independent clauses joined by a conjunction, and to set off the year in exact dates.

**Examples:**

*Incorrect* – the height, width or depth

*Correct* – the height, width, or depth

*Incorrect* – Switch A which was on a panel controlled the recording device.

*Correct* – Switch A, which was on a panel, controlled the recording device.
Comma Usage, cont.

Incorrect –
Cedar shavings covered the floor and paper was available for shredding.

Correct –
Cedar shavings covered the floor, and paper was available for shredding.

Incorrect –
April 18 1992 was the correct date.

Correct –
April 18, 1992, was the correct date.

Correct –
April 1992 was the correct month.
**Comma Usage, cont.**

**Do not use a comma before an essential clause, between two parts of a compound predicate, or to separate parts of measurement.**

Incorrect –
The switch, that stops the recording device, also controls the light.

Correct –
The switch that stops the recording device also controls the light.

Incorrect –
All subjects completed the first phase of the experiment, and returned for Phase 2.

Correct –
All subjects completed the first phase of the experiment and returned for Phase 2.

Correct –
8 years 2 months 3 min 40 s
3. **Vague Word Choices** – Every word should be specific and exactly what you intend it to mean.

**Examples:**

*Incorrect* –
Articles by psychologists like Skinner and Watson . . .

*Correct* –
Articles by psychologists such as Skinner and Watson . . .

**Words to avoid:**
important, like, some, good, different, very few, feel, etc!!!!
2. **Ending a Sentence with a Preposition** – A preposition is used with a noun or pronoun to show the relationship between a noun or pronoun and another word in the sentence.

**Examples:**

<table>
<thead>
<tr>
<th>about</th>
<th>beside</th>
<th>like</th>
<th>toward</th>
</tr>
</thead>
<tbody>
<tr>
<td>above</td>
<td>between</td>
<td>near</td>
<td>under</td>
</tr>
<tr>
<td>across</td>
<td>beyond</td>
<td>off</td>
<td>until</td>
</tr>
<tr>
<td>after</td>
<td>but</td>
<td>on</td>
<td>up</td>
</tr>
<tr>
<td>against</td>
<td>by</td>
<td>onto</td>
<td>upon</td>
</tr>
<tr>
<td>along</td>
<td>down</td>
<td>out</td>
<td>with</td>
</tr>
<tr>
<td>among</td>
<td>during</td>
<td>outside</td>
<td>without</td>
</tr>
<tr>
<td>around</td>
<td>except</td>
<td>out</td>
<td></td>
</tr>
<tr>
<td>at</td>
<td>for</td>
<td>over</td>
<td></td>
</tr>
<tr>
<td>before</td>
<td>from</td>
<td>past</td>
<td></td>
</tr>
<tr>
<td>behind</td>
<td>in</td>
<td>since</td>
<td></td>
</tr>
<tr>
<td>below</td>
<td>inside</td>
<td>through</td>
<td></td>
</tr>
<tr>
<td>beneath</td>
<td>into</td>
<td>to</td>
<td></td>
</tr>
</tbody>
</table>
Prepositions, cont.

Incorrect –
That is a situation I have not thought of.

Correct –
I have not thought of that situation.

Incorrect –
She is a person I cannot cope with.

Correct –
She is a person with whom I cannot cope.
1. Lack of Proofreading!

Tips:

• Reread your own writing, especially out loud! You will be amazed how many errors you catch by rereading or listening to your own written words.
• Enlist a fresh pair of eyes. Ask a friend, spouse, roommate, or family member to read your document and offer any helpful comments or suggestions. If your document is extremely long, offer chapters or sections to others to read.
• Utilize outside resources such as reputable websites, faculty advisors, on-campus Writing Center, or editors (me!).

**A vast majority of the time, you are your own best editor!!!**
Let’s Practice . . . Again!!
In many locations, bridges have bents that consist of two columns and a cap beam that serves as the transverse-to-bridge lateral force resisting system. The columns of the bents may be vertical, declined in a V-shape or inclined in an A-shape. In addition, the columns may be hollow or solid with either flexible or rigid cap beams. In members that are likely to be subjected to seismic or other lateral forces, the understanding of unequal shear distribution as it relates to the individual columns is of the utmost importance. When a two-column bridge bent is laterally loaded in the plane of the columns, overturning or cap beam coupling forces cause compressive forces to be added to the leeward column and tensile forces to be added to the wayward column. Prior to cracking, the differences in lateral stiffness between the two columns in a bent are considered insignificant since the overturning forces (or changes in axial loading on the columns) are inconsequential. As the lateral force increases, the overturning forces cause the cracking to manifest not simultaneously, but with at different levels in the two columns. Affecting the lateral stiffness, different cracking patterns cause the shear forces to be unequally distributed between columns.
In many locations, bridges have bents that consist of two columns and a cap beam that serves as the transverse-to-bridge lateral force resisting system. The columns of the bents may be vertical, declined in a V-shape or inclined in an A-shape. In addition, the columns may be hollow or solid with either flexible or rigid cap beams. In members that are likely to be subjected to seismic or other lateral forces, the understanding of unequal shear distribution as it relates to the individual columns is of the utmost importance. When a two-column bridge bent is laterally loaded in the plane of the columns, overturning or cap beam coupling forces cause compressive forces to be added to the leeward column and tensile forces to be added to the wayward column. Prior to cracking, the differences in lateral stiffness between the two columns in a bent are considered insignificant since the overturning forces (or changes in axial loading on the columns) are inconsequential. As the lateral force increases, the overturning forces cause the cracking to manifest not simultaneously, but with at different levels in the two columns. Affecting the lateral stiffness, different cracking patterns cause the shear forces to be unequally distributed between columns.
**Personal Pronouns** ("I," “we,” “our”) are appropriate for scientific journal writing, but try to avoid in your theses and dissertations. If they must be used, be consistent in correlating with the number of mentioned authors. (Example: one author listed – “I,” “my”)

**Acronyms** – “Define acronyms the first time they appear in the Abstract as well as the first time they appear in the body of the paper, written out as part of the sentence, followed by the acronym in parentheses. If the acronym is not repeated in the Abstract, do not include the acronym in parentheses. Coined plurals or plurals of acronyms do not take the apostrophe (e.g., FETs). Possessive forms of the acronym do take the apostrophe (e.g., CPU’s speed). Indefinite articles are assigned to abbreviations to fit the sound of the first letter (e.g., an FCC regulation; a BRI).”

USE PRESENT TENSE.

To express findings that continue to be true.

To express general truths or facts or conclusions supported by research results that are unlikely to change - something that is believed to be always true:

Galileo asserted that the earth revolves the sun. (The asserting took place in the past, but the earth is still revolving around the sun.)

To refer to the article, thesis or dissertation itself and what it contains:

Table 3 shows that the main cause of weight increase was nutritional value of the feed.

To discuss findings and present conclusions. Also, use present tense to discuss your results and their implications.
USE PAST TENSE. . .

To describe your methodology and report results.

*We extracted tannins from the leaves by bringing them to a boil in 50% methanol.*

When referring to the work of previous researchers.

*Previous research showed that children confuse the source of their memories more often than adults (Lindsey et al., 1991). (The research was conducted in the past, but the finding is now a widely accepted fact.)*

To describe a fact, law or finding that is no longer considered valid and relevant.

*Nineteenth-century physicians held that women got migraines because they were "the weaker sex," but current research shows that the causes of migraine are unrelated to gender. (Note the shift here from past tense [discredited belief] to present [current belief].)*

A Word from the Editor . . .

USE “THE” . . .

To mean the only one or indicate that something is unique (the Internet)

To refer to things known by everyone (the world, the sun, the sky, the moon)

With time expressions (the future, the present, the past, the 1990s)

To refer to widely known inventions (the computer, the microchip, the telescope)

For unstated words which make the noun definite (the user’s ID and age – means the user of the Internet)
DO NOT NEED “THE” . . .

When generalizing ideas or nouns

Rapid changes in the global market

Traditional management accounting practices

Nowadays, computers can receive TV signals

http://www.monash.edu.au/lls/llonline/grammar/articles/2.xml
Shoes, cars, airplanes, self-adhesive notes/envelops, wood composites, plasters – these are just a few samples of the many products featuring adhesive. More than 20 billion pounds of adhesives and resins are consumed annually in the United States (DWN 200). To this day the majority of adhesives are manufactured from petroleum based materials such as phenol-formaldehyde, urea-formaldehyde and melamine-formaldehyde. Petroleum is non-renewable, and no one doubts that fossil fuels are subject to depletion. In addition, there is a growing concern over the effects of increased petroleum usage on both the environment and human health. Petroleum-based adhesives are not biodegradable and pollute the soil and groundwater when they are disposed (CPC Aeroscience, 2005). The emission of formaldehyde from urea-formaldehyde adhesives also causes health problems on human beings. The common symptoms from acute exposure to formaldehyde manifest as irritation of the throat, nose, eyes and skin. The International Agency for Research on Cancer (IARC) also reclassified formaldehyde from “probably carcinogenic to humans” to “carcinogenic to humans” (Environmental Health, 2008).

Continued development and adoption of protein based adhesives especially soy-based wood adhesives have cost-saving advantages and increased environmental benefits across various lumber products, including wood panel products (plywood, veneer, oriented strand board, particleboard and medium-density fiberboard), engineered lumber, green framing lumber and wood pallets and offers a safer alternative to using formaldehyde in plywood adhesives.
Group Editing Practice, cont.

Shoes, cars, airplanes, self-adhesive notes/envelops, wood composites, plasters – these are just a few samples of the many products featuring adhesive. More than 20 billion pounds of adhesives and resins are consumed annually in the United States (DWN 200). To this day the majority of adhesives are manufactured from petroleum based materials such as phenol-formaldehyde, urea-formaldehyde and melamine-formaldehyde. Petroleum is non-renewable, and no one doubts that fossil fuels are subject to depletion. In addition, there is a growing concern over the effects of increased petroleum usage on both the environment and human health. Petroleum-based adhesives are not biodegradable and pollute the soil and groundwater when they are disposed (CPC Aeroscience, 2005). The emission of formaldehyde from urea-formaldehyde adhesives also causes health problems on human beings. The common symptoms from acute exposure to formaldehyde manifest as irritation of the throat, nose, eyes and skin. The International Agency for Research on Cancer (IARC) also reclassified formaldehyde from “probably carcinogenic to humans” to “carcinogenic to humans” (Environmental Health, 2008).

Continued development and adoption of protein based adhesives especially soy-based wood adhesives have cost-saving advantages and increased environmental benefits across various lumber products, including wood panel products (plywood, veneer, oriented strand board, particleboard and medium-density fiberboard), engineered lumber, green framing lumber and wood pallets and offers a safer alternative to using formaldehyde in plywood adhesives.

Shoes, cars, airplanes, self-adhesive notes/envelopes, wood composites, and plasters are just a few of the many products featuring adhesive. More than 20 billion pounds of adhesives and resins are consumed annually in the United States (DWN 200). Currently, a majority of adhesives are manufactured from petroleum-based materials such as phenol-formaldehyde, urea-formaldehyde, and melamine-formaldehyde. However, petroleum is non-renewable and fossil fuels are subject to depletion. Growing concern also exists regarding the effects of increased petroleum usage on the environment and human health since petroleum-based adhesives are not biodegradable and pollute soil and groundwater when they are disposed (CPC Aeroscience, 2005). Formaldehyde emission from urea-formaldehyde adhesives also causes health problems for humans with common symptoms from acute exposure being irritation of the throat, nose, eyes, and skin. The International Agency for Research on Cancer (IARC) also reclassified formaldehyde from “probably carcinogenic to humans” to “carcinogenic to humans” (Environmental Health, 2008).

Continued development and adoption of protein-based adhesives, especially soy-based wood adhesives, have cost-saving advantages and increased environmental benefits for various lumber products, including wood panel products (plywood, veneer, oriented strand board, particleboard, and medium-density fiberboard), engineered lumber, green framing lumber and wood pallets. Petroleum-based adhesives offer a safe alternative to formaldehyde in plywood adhesives.
Oilseed crops were chosen for their ability to grow in the Midwest and their potential for use as a feedstock for production of biodiesel or other biochemicals. Soybean is the most important oilseed crop in the U.S. in terms of production and economic value as it accounts for over 90 percent of U.S. production of biodiesel and is a dominant food product (Gao et al., 2009). Over 50 million metric tons of canola is produced annually, making it the world’s third most important oilseed crop behind palm and soybean (Downey, 1990). Camelina is a relatively new oilseed crop that because of its low agricultural inputs and ability to grow on marginal lands, could play an important role in food and fuel production in the future (Budin, Breene, & Putnam, 1995). Sunflower is one of the five largest oilseed crops in the world with over 1.5 million acres of sunflower planted in the US in 2011 (“Economic Research Service, USDA. ‘Table 20: Sunflowerseed: Acreage planted, harvested, yield, production and value, U.S., 1980-2011’,” n.d.). Compared to previous multi-crop studies on seed oil compositions, the current one is distinctive in including camelina with the traditional crops (Werteker, Lorenz, Johannes, Berghofer, & Findlay, 2010) (Tremolieres, Dubacq, & Drapier, 1982).
Self-editing Practice #3, cont.

Oilseed crops were chosen for their ability to grow in the Midwest and their potential for use as a feedstock for production of biodiesel or other biochemicals. Soybean is the most important oilseed crop in the U.S. in terms of production and economic value as it accounts for over 90 percent of U.S. production of biodiesel and is a dominant food product (Gao et al., 2009). Over 50 million metric tons of canola is produced annually, making it the world’s third most important oilseed crop behind palm and soybean (Downey, 1990). Camelina is a relatively new oilseed crop that because of its low agricultural inputs and ability to grow on marginal lands, could play an important role in food and fuel production in the future (Budin, Breene, & Putnam, 1995). Sunflower is one of the five largest oilseed crops in the world with over 1.5 million acres of sunflower planted in the US in 2011 (“Economic Research Service, USDA. ‘Table 20: Sunflowerseed: Acreage planted, harvested, yield, production and value, U.S., 1980-2011’,” n.d.). Compared to previous multi-crop studies on seed oil compositions, the current one is distinctive in including camelina with the traditional crops (Werteker, Lorenz, Johannes, Berghofer, & Findlay, 2010) (Tremolieres, Dubacq, & Drapier, 1982).
Any questions, comments concerns?

Tamara Robinson, ERGP Editor
tamarar@ksu.edu

Editor Services Form:
www.engg.ksu.edu/ergp/resources/services.html
KSU Writing Center - http://www.k-state.edu/english/writingcenter/
Hale Library - http://www.lib.k-state.edu/information-for-graduate-students
K-State Libraries electronic resources can be accessed at http://apps.lib.k-state.edu/databases/

The Cambridge Structural Database has crystal structure information for organic molecules and metal-organic compounds whose structure is known from X-ray diffraction or neutron diffraction. Records for the molecules or compounds include information on publications in the literature as well as chemical and crystallographic information.

IBISWorld provides information and analysis on more than 700 American and global industries. Users can choose from a variety of reports, including Industry Research, Industry Risk Rating, Business Environment, and Global Industry Research. The information can be useful to researchers in economics, business, and other social sciences ranging from sociology to journalism.

Nineteen Century Collections Online (NCCO) is a collection of primary materials from the nineteenth century on all kinds of topics. Documents, books, images, maps, and other materials are available and fully searchable. Societies from around the world are profiled, as well as issues such as women’s rights, science, technology, politics, and business.

If There’s Time . . .

A Great Excuse

This past Fall semester at Kansas State University, two Sophomores were doing very well in their Chemistry class. Although the final exam was on Monday, they decided to go up to the university of kansas that weekend to see some friends.

The Sophomores had a great time, but they overslept and didn’t make it back in time for the final exam. When they returned in the Afternoon, they found Professor Smith and told him they’d had a flat tire on the way back. “We would have been here on time, but we didn’t have a spare and couldn’t get help for a long time.”

The Professor thought this over and then agreed that they could make up the final on the following day. The two students were elated and relieved.

The next day the Professor placed them in separate rooms and handed each of them a test booklet. “You may begin,” he said.

They looked at the first problem, which was worth 5 points. Each answered it easy. “Cool!” they thought. “this is going to be easy.” Each of them completed the problem and turned the page.

They weren’t prepared for the only remaining question, worth 95 points. It said, “Which tire?”
This past fall semester at Kansas State University, two sophomores were doing very well in their chemistry class. Although the final exam was on Monday, they decided to go up to the University of Kansas that weekend to see some friends.

The sophomores had a great time, but they overslept and didn’t make it back in time for the final exam. When they returned in the afternoon, they found Professor Smith and told him they’d had a flat tire on the way back. “We would have been here on time, but we didn’t have a spare and couldn’t get help for a long time.”

The professor thought this over and then agreed that they could make up the final on the following day. The two students were elated and relieved.

The next day the professor placed them in separate rooms and handed each of them a test booklet. “You may begin,” he said.

They looked at the first problem, which was worth five points. Each answered it easily. “Cool!” they thought. “This is going to be easy.” Each of them completed the problem and turned the page.

They weren’t prepared for the only remaining question, worth 95 points. It said, “Which tire?”