(1) Writing in your subject: Students learn to write by writing. Research indicates that students write more when using a computer than when writing by hand.

- Develop a computer-based writing assignment relevant to the theme of your portfolio.

Math computer-based writing assignment.
Use the internet, math books, or old math journals to research fractals. Write a three page essay on the discovery of fractals, how they apply to mathematics, give examples of how they occur in nature and define what a fractal is. Make sure to site all sources used, and use the spell/grammar check software to check for mistakes.

(2) Editing: Research indicates that students edit and revise more when writing on a computer than when writing by hand.

- Use the footnote feature to identify all of the mistakes you can find in this document without the aid of a grammar checker, and repeat with the aid of a grammar checker.

Errors I found without the use of a grammar checker.

The causes of the Revolutionary War\(^1\) was that the\(^2\) the English put tacks\(^3\) in their tea. Also, the colonists would send their parcels through the post without stamps. During the War\(^4\), the Red Coats and Paul Revere was throwing balls over stone walls. The dogs were barking and peacocks crowing. Finally the colonists won and no longer had to pay for taxis\(^5\), delgats\(^6\) from the original 13 states formed an Contented Congress. Thomas Jefferson and Benjamin Franklin were two\(^7\) singers of the Declaration of Independence. Franklin\(^8\) declared\(^9\) "A horse divided against itself cannot stand." Franklin died in 1790\(^10\)

\(^1\) War (mis-spelling)
\(^2\) the ( used twice)
\(^3\) tax ( mis-spelling)
\(^4\) war (capitalization)
\(^5\) taxes(mis-spelling)
\(^6\) delegates(mis-spelling)
\(^7\) two (mis-spelling)
\(^8\) Franklin (mis-spelling)
\(^9\) , ( comma needed)
\(^10\) . ( end sentence)
and is still dead\textsuperscript{11}. Soon the Constitution\textsuperscript{12} of the United States\textsuperscript{13} was adopted to secure domestic hostility. Abraham Lincoln became America's greatest Precedent\textsuperscript{14}. Lincoln's mother died in infancy, and he was born in a log cabin which he built with his own hands. Lincoln said, "in onion there is great strength."

**Errors I found with the use of a grammar checker.**

The causes of the Revolutionary War\textsuperscript{15} was that the English put tacks in their tea. Also, the colonists would send their parcels through the post without stamps. During the War, the Red Coats and Paul Revere was\textsuperscript{16} throwing balls over stone walls. The dogs were barking and peacocks crowing. Finally the colonists won and no longer had to pay for taxis. Delegates from the original 13 states formed a Contented Congress. Thomas Jefferson and Benjamin Franklin were two\textsuperscript{19} singers of the Declaration of Independence. Franklin declared\textsuperscript{20} "A horse divided against itself cannot stand." Franklin died in 1790\textsuperscript{21} and is still dead. Soon the Constitution\textsuperscript{23} of the United States\textsuperscript{24} was adopted to secure domestic hostility. Abraham Lincoln became America's greatest Precedent.\textsuperscript{26} Lincoln's mother died in infancy, and he was born in a log cabin\textsuperscript{30} which he built with his own hands. Lincoln said, "in onion there is great strength."

- What kinds of errors are generally not detected by the software? Give examples. Would you encourage your students to use a grammar/style checker? If so,

\textsuperscript{11} "and is still dead." (bad use of grammar)
\textsuperscript{12} Constitution (mis-spelling)
\textsuperscript{13} United States (capitalization)

\textsuperscript{15} war (two r's)
\textsuperscript{16} the (used twice)
\textsuperscript{17} insert comma
\textsuperscript{18} were
\textsuperscript{19} two (mis-spelling)
\textsuperscript{20} missing comma
\textsuperscript{21} period needed
\textsuperscript{22} repetitive (and is still dead does not make sense)
\textsuperscript{23} Constitution (misspelling)
\textsuperscript{24} United (capitalization)
\textsuperscript{25} States (capitalization)
\textsuperscript{26} President (mis-spelling)
\textsuperscript{27} child birth (bad vocabulary)
\textsuperscript{28} And (not necessary, period after child birth)
\textsuperscript{29} He (capitalize)
\textsuperscript{30} , (comma needed)
\textsuperscript{31} ,(colon wrong punctuation)
\textsuperscript{32} ? (onion doesn't make sense)
explain how it might be best employed. If not, explain why not.

The types of errors that are generally not detected by the software are words that are correct, but spelled wrong for how they are being used. Example: Jessica has too cats. Here the software might not detect an error because too is a word, spelled correctly, but in this case we are looking for two and not too.

I would definitely recommend the usage of the spell/grammar check software only as the last step in revisions of the essay or paper that a student is writing. I think the best solution would be to first have the student look over their paper and correct it his or her self, then have a peer check for errors. Then, when the second draft is ready to be typed, have the computer check over the essay to find any errors that might not have been found.

(3) Analysis of your textbook: Readability is a measure of the comprehensibility or understandability of written text. There are many methods and formulas for determining readability and the related reading age. Teachers should be aware of the readability level of their text as well as the reading level of their students.

- Scan three or more paragraphs from your textbook into a word processor file using OCR software. Perform a document check and readability estimate on the text and include the results in your portfolio.

The number 2 is the base, the number 5 is the exponent, and the expression 2 is a power. The exponent in a power represents the number of times the base is used as a factor. For a number raised to the first power, you do not usually write the exponent 1. For instance, the expression 2 represents the number that you obtain when 2 is used as a factor 5 times.

In Example 1, notice how the base is indicated by the exponent in part (a) to indicate that the base is -3. In the expression in part (b), the base is 3, not -3. An order of operation helps avoid confusion in writing expressions.

- According to the computer-generated readability estimates, does this text appear to be appropriate for your students? Explain. (Note: In some programs, document analysis appears at the end of a grammar check).
According to the Flash-Kincaid grade level check, these three paragraphs are readable for an 8th grade level. I scanned the text from a book that generally a sophomore in high school would use, so this book is readable for students in the 10th grade taking an algebra 2 course.

(4) Equations: Many teachers have the need to incorporate equations into handouts, tests and notes. Equation editors allow you to make equations and then export them as graphics to word processors.

- Use an Equation Editor to create two or more complex equations from your discipline. If your discipline does not use many equations, you may select from the following list.

1. \[ b \pm \sqrt{b^2 - 4ac} \]
2. \[ \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1 \]

(5) Word relationships: English dictionaries contain more than 250,000 words, while Spanish dictionaries contain approximately 100,000 words, and most other languages have far fewer. English has an extensive vocabulary and many synonyms. This can cause difficulties for English learners. An electronic thesaurus may be used to help students understand the complex relationship within the English lexicon.

- Using a thesaurus, paraphrase the preamble of the Constitution. Include at least ten logical substitutions for the original words. You may use the built-in thesaurus (Tools/Language/Thesaurus) in Word or internet resources such as Merriam Webster's Dictionary & Thesaurus, or Roget's Thesaurus. Describe (with an example) how you can use a thesaurus when trying to explain the meanings of difficult words to your students.

Preamble: We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Preamble: We the Citizens of the United States, in Order to create a more flawless Union, establish Justice, insure household Harmony, give for the public defense, support the general Welfare, and guarantee the Blessings of Liberty to ourselves and our Posterity, to establish and start this Constitution for the United States of America.

(6) Mastering Content Vocabulary: Although modern English has the largest and most
complex lexicon of any language in history, the meanings of many words can be determined if one knows the common prefixes, suffixes and root words. Knowledge of such morphemes is particularly useful for English learners who face the formidable challenge of mastering English vocabulary, with all of its many nuances. According to Richard E. Hodges of the University of Puget Sound ("Improving Spelling and Vocabulary in the Secondary School; 1982, p 30), “If you were to examine the 20,000 most used English words, you would find that about 5,000 of them contain prefixes and that 82 percent (about 4,100) of those words use one of only fourteen different prefixes out of all the available prefixes in the language.” Thus, if students master these prefixes, they will know clues to the meanings of thousands of words." *TPE-tip. TPE 7 requires teachers to "implement an instructional program that facilitates English language development, including reading, writing, listening and speaking skills" You may wish to develop a root-word bank for the subject you teach and show how it facilitates vocabulary development (TPE-7)

- Identify five words commonly used in your subject. Identify one or more prefixes, suffixes or roots from each. Use an online dictionary to identify 5 or more other words in the English language that use these morphemes as per the example. When searching, you will need to use standard wildcards: *=multiple characters; ?=single character.

<table>
<thead>
<tr>
<th>Root</th>
<th>Meaning</th>
<th>Five or more related words that share this root</th>
</tr>
</thead>
<tbody>
<tr>
<td>dict-</td>
<td>tell, pronounce</td>
<td><em>d</em>ictator (one whose word is law), <em>d</em>iction (enunciation), <em>ed</em>ic (a formal pronouncement or command.), <em>dic</em>tum (an authoritative, often formal pronunciation), <em>dic</em>tate (to say or read aloud to be recorded or written by another)</td>
</tr>
<tr>
<td>Integ</td>
<td>Put together, mix</td>
<td>Integral, integrant, integrand, integrated, integration</td>
</tr>
<tr>
<td>Differ</td>
<td>To distinguish, make different</td>
<td>Differentiable, differential, different, differential, different</td>
</tr>
<tr>
<td>Quo</td>
<td>Proportion, measure</td>
<td>Quotha, quotidian, quote, quotation, quoth</td>
</tr>
<tr>
<td>Pro</td>
<td>Result, outcome</td>
<td>Producer, produce, prodigy, prodrome, produce</td>
</tr>
<tr>
<td>Equiv</td>
<td>Equal, corresponding</td>
<td>Equivalency, equivalence, equivocal, equivocate, equivocation</td>
</tr>
</tbody>
</table>

- English has acquired words from many languages as seen in this story. It is helpful to show students these foreign words and cognates so they can better understand the historical relationship between English and other languages and
look for cognates when learning new terms. Translate 5 or more words from your discipline into each of four languages using Sherlock, Logos or other resources. Include the translations in your portfolio. Identify cognates and explain how you can use them to help students master English.

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>French</th>
<th>Italian</th>
<th>Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td>difference</td>
<td>diferencia</td>
<td>difference</td>
<td>differenza</td>
<td>difference</td>
</tr>
<tr>
<td>product</td>
<td>producto</td>
<td>produit</td>
<td>prodotto</td>
<td>produto</td>
</tr>
<tr>
<td>equivalent</td>
<td>equivalente</td>
<td>équivalent</td>
<td>equivalente</td>
<td>equivalente</td>
</tr>
<tr>
<td>integrate</td>
<td>integre</td>
<td>intégrez</td>
<td>integré</td>
<td>integre</td>
</tr>
<tr>
<td>quotient</td>
<td>cociente</td>
<td>quotient</td>
<td>quoziente</td>
<td>quociente</td>
</tr>
</tbody>
</table>

• One way to interest students in the significance of words is to have them study the meaning of their own names. Identify the meaning of five common first names of students in your class.

JOHN
Gender: Masculine
Usage: English, Biblical
Pronounced: JAHN  [key]
English form of Iohannes, which was the Latin form of the Greek name Ἰωάννης (Ioannes), itself derived from the Hebrew name יְוָהנָן (Yochanan) meaning "YAHWEH is gracious". This name owes its consistent popularity to two New Testament characters, both highly revered as saints. The first was John the Baptist, the forerunner of Jesus Christ and a victim of beheading by Herod Antipas. The second was the apostle John, also supposedly the author of the fourth Gospel and Revelation. The name has been borne by 23 popes, as well as kings of England, Hungary, Poland, Portugal and France. It was also borne by the poet John Milton and the philosopher John Locke.

TIMOTHY
Gender: Masculine
Usage: English, Biblical
Pronounced: TIM-u-thee  [key]
From the Greek name Τιμόθεος (Timoteos) meaning "honouring God", derived from τιμάω (timao) "to honour" and θεος (theos) "god". Saint Timothy was a companion of Paul on his missionary journeys and was the recipient of two of Paul's epistles that appear in the New Testament. According to tradition, he was martyred at Ephesus after protesting the worship of Artemis.
Name:
June 16, 2005

**KRISTIN**
*Gender: Feminine*
*Usage: Scandinavian, German*
*Pronounced: KRIS-tin [key]*

Scandinavian and German form of **CHRISTINA**

**AYLA (2)**
*Gender: Feminine*
*Usage: Turkish*

Possibly means "moonlight" in Turkish.

**AYLA (3)**
*Gender: Feminine*
*Usage: Literature*

Created for the novel 'Clan of the Cave Bear' by author Jean M. Auel. In the novel Ayla is an orphaned Cro-Magnon girl adopted by Neanderthals. *Ayla* is the Neanderthal pronunciation of her real name, which is not given.

**LUBOMÍR**
*Gender: Masculine*
*Usage: Polish, Slovak*

Polish form of **LUBOMÍR**

**LUBOMÍR**
*Gender: Masculine*
*Usage: Czech, Slovak*

Means "love and peace" from the Slavic elements *lub* "love" and *mir* "peace".

(8) Communicating with English Learners and their families: Southern California is home to a very diverse population, many of whom are immigrants from non-English speaking countries. Translation programs can help break down some of the language barriers between teachers, their students, and the families of these students.

- Use translation software (such as Sherlock, FreeTranslation.com or AltaVista Translation Service) to translate a simple document from your class into one or more languages spoken by students in your class. If possible, show this to someone who is fluent in English and the language into which you have translated it, and explain any potential problems.

Mr. and Mrs. Smith,

This letter is in regards to your son John in my 5th period algebra 1 class. In the beginning of the semester, you received a letter from me informing you of John’s lack of effort in my class resulting in his failing grade.

In the 5 weeks that have passed since my last letter, John has shown incredible improvement in my class. Homework has been completed and turned in on time daily. He has raised his quiz average from a 51% to a 75%, and his last test grade was 89%,
almost an A. His current grade stands at a 73%, which in my opinion is a vast improvement in such a short time.

I have no doubts whatsoever that if John continues to go in the path he has been in the past 5 weeks, that by the end of the semester, he can possibly achieve an A in the class if everything following this letter continues to improve.

Thank you for your time and supporting your son in his mathematical struggles, Kristin Collins.

Sr. y la Sra. Smith, Esta carta está con respecto a su hijo John en mi álgebra quinta del período 1 clase. En el principio del semestre, usted recibió una carta de mí le informando de falta de John del esfuerzo en mi clase que tiene como resultado su grado que falla.

En las 5 semanas que han pasado desde que mi última carta, John ha mostrado la mejora increíble en mi clase. Los deberes se han completado y han sido girados en a la hora diariamente. El ha levantado su promedio del examen de un 51% a un 75 %, y su último grado de la prueba era 89%, casi un A. Su grado actual se para en un 73%, que en mi opinión es una mejora vasta en un tiempo tan corto.

Yo no tengo las dudas todo lo que que si John continúa entrar el sendero que él ha estado en las pasadas 5 semanas, eso por el fin del semestre, él puede lograr posiblemente un UN en la clase si todo que sigue esta carta continúa mejorar.

Gracias para su tiempo y sostener a su hijo en sus luchas matemáticas, Kristin Collins.

Being a Spanish speaker myself, this translator is fairly close to how it should be translated. The potential problems that can arise using a translator would be the correct conjugation of verbs or the correct interpretation of words. For example, the word read has two meanings. It is conjugated from the verb to read. In English, it can mean: You, he/she, we, they read in present or past tense. The conjugation is the same, and only a person who is fluent in both languages could catch the difference. In Spanish, you leave yourself open to the possibility of all the following possibilities: Leer – to read

Present tense:
(I) Yo leo
(II) Ud. lee
(III) Nosotros leemos
(IV) Uds. Leen
(V) Tu lees

Just for the the one verb there are 5 different conjugations depending on who you are addressing. For the past tense, there are another 5 conjugations. So, there are 10 possible words for the one word read that can throw off the balance of the sentence, while making the meaning pretty much understood, the grammar is off.