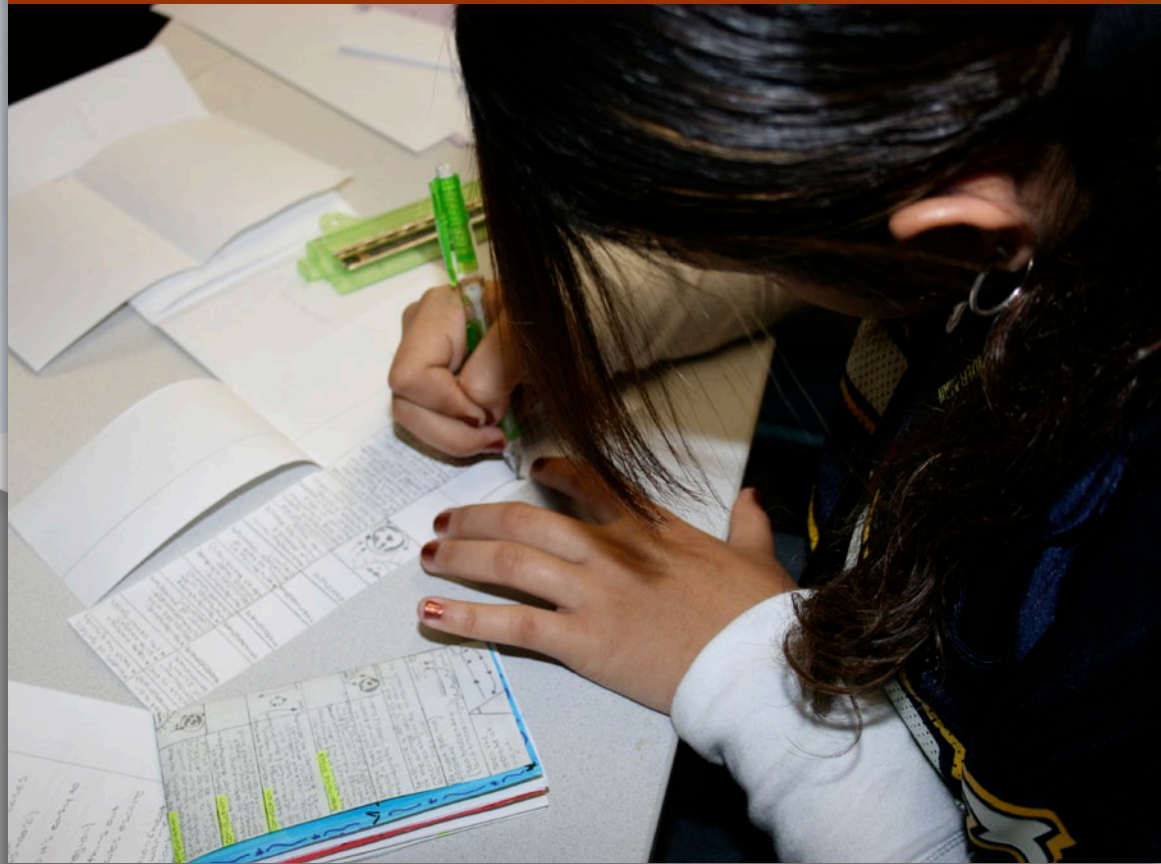# ENGAGING
THE ADOLESCENT LEARNER

BY DOUGLAS FISHER AND NANCY FREY

Writing in the Disciplines
(Even When You're Not a Writing Teacher)

Mention the importance of writing proficiency for middle and high school students, and everyone will likely agree. After all, the ability to convey information in writing, to persuade others about a good idea, even to accurately record the decisions made by a group, are skills valued by employers and colleges. Indeed, the ability to write accurately and concisely serves as a gateway to higher paying jobs and careers (Bottoms & Phillips, 2010).

Stated simply, employees who lack the technical writing skills needed in their profession have difficulty advancing beyond entry-level positions. Even those who have otherwise excellent work habits and verbal communication skills are hampered if they cannot accurately complete reports, write memos, and

produce other short, written tasks such as email messages. One study reported that 60% of public-sector employers stated that a person's ability to write within the context of the job strongly influenced promotion decisions (National Commission on Writing, 2005).

For students who are intent on a college path, the ability to writing coherently is essential for passing entrance exams and classes. Although we can debate what constitutes "good" writing, the overall length of a written response appears to strongly correlate to the score on the 25-minute essay portion of the SAT Reasoning Test (Winerip, 2005). Whether on the job or in the college classroom, the ability to write quickly and on demand is essential. Of course comparative essays, research papers, and other formal writing are important, but we believe that short, frequent, daily writing experiences are critical if students are to build their capacity and stamina to write more sustained, discipline-appropriate forms. In this article, we make a case for discipline-specific instructional writing routines that do just that.

Discipline-Specific Writing

Although writers compose for many purposes, the main type of writing done at the secondary and post-secondary levels is what Britton (1975) called transactional: writing to persuade or inform an audience. A large scale study of college writing assignments at 100 colleges from 2002 to 2006 found that 83% of them were of this variety, while little of their writing called for expressive (5%) or poetic (.2%) forms (Melzer, 2009). Melzer notes that this has changed little in the last quarter century, when Applebee (1984) did a similar analysis of high school writing assignments. Despite changes

in the writing forums offered in a new century (blogs, SMS messages, and such) the basic human need to communicate with transactional writing persists.

Although writing purposes have remained consistent over time, we understand far more about the discipline-specific nature of literacy now than we did in Britton's time. This is first apparent in the texts used in different content areas; a mathematics textbook is quite different from a novel in an English class. There has been a growing knowledge base on the discipline-specific reading approaches necessary to understand more complex texts (e.g., Shanahan & Shanahan, 2008).

Evidence of this trend can be found in the Common Core State Standards, adopted by 42 states and the District of Columbia as of this writing, which calls for increased text complexity as a means for raising achievement. In addition, these standards position science and history/social science teachers on the front lines with English teachers at assuming primary responsibility for teaching students how to read, discuss, and write about these texts.

Writing within each discipline varies, and the content area teacher is best able to create experiences with the formats and purposes commonly found within the field. Who better to understand the academic language and vocabulary used, as well as the forms and audiences for each? Students in science classes are typically required to write summaries and analyses of the results obtained, such as in a lab report. On the other hand, mathematics students need to explain in words the process they used to compute and solve problems. Meanwhile, students in history/social sciences frequently compare and contrast ideas, events, and people.

The Common Core State Standards (CCSS) for writing in grades 6-12 emphasize the ability to write for the purposes of information and explanation. In addition, the CCSS document calls for students to write in short form (a single sitting) as well as longer documents that require time to research, develop, and revise. More information about the CCSS requirements for secondary writing can be found at www.corestandards.org/the-standards/english-language-arts-standards/writing-6-12/introduction/.

English students commonly find themselves being asked to analyze a primary source. Students in the visual and performing arts usually write about their responds to a piece of music or art.

Writing to Learn

Although some writing is content-specific, what writing does for the writer transcends the disciplines. Writing has long been acknowledged as an aid in understanding the concepts and ideas being written about (Zinsser, 1988). Writing-to-learn activities are typically short in nature (5–10 minutes in length), are not edited or otherwise revised, and serve the primary purpose of causing students to reflect on what they know, don't know, or are confused about.

Many writing-to-learn prompts invite students to speculate, predict, and brainstorm. In other words, these activities are primarily expressive in nature (Britton, 1975). We find a lot of value in asking students to comment on the most surprising thing they learned today or to make a prediction about what might be taught tomorrow. But we also find value in leveraging traditional writing-to-learn formats, such as bellwork at the beginning of the lesson and exit slips at the end, to foster discipline-specific writing opportunities. By doing so, we prepare students to engage in the on-demand writing that dominates both academic and professional settings.

Importance of On-Demand Writing Skills

As noted earlier, formal writing is required in many disciplines and professions, but on-demand writing is the bread-and-butter type that occurs throughout the day. In the classroom, students describe concepts in detail in their notes and face tests that require short-answer essays. Commonly they write short summaries of the activities in which they are engaged during class. They might summarize the results of a lab in chemistry class and then write a short summary of a chapter they read in English class. During lunch they might compose an email to a guidance counselor asking if she would be willing to write a letter of recommendation. After school, they summarize their skills on a job application. These decidedly ordinary writing examples add up to a series of writing tasks throughout the day.

Short writing tasks in the classroom provide the teacher with insight into what students know and do not know. Done purposefully and analyzed with intent, writing-to-learn activities form the basis for formative assessment (see Figure 1). They provide the teacher with immediate informative feedback about what needs to be taught next, whether it's time to move on to new concepts or if there are specific students who require re-teaching or remediation. In order to capitalize on the immediacy, we typically have students hand us an exit slip on the way out of class. It only takes a few minutes to flip through the responses to get a sense of the general level of understanding in the classroom. In addition, those who continue to hold misconceptions or who only have a

Writing-to-Learn Prompts

It's useful to develop a bank of generic writing-to-learn prompts that can be easily applied to any unit of instruction. Here are a few of our favorites (Fisher & Frey, 2012):

Yesterday's News Write a summary of the main ideas discussed in the previous class meeting.

Keep It Simple, Sister (KISS) How would you explain what you've been learning to a younger brother or sister? Remember that he or she is two years younger than you, so keep it simple and to the point.

Crystal Ball Based on this new revelation, what do you expect will happen next?

What If? What if _____ hadn't occurred? What would change?

Guess What's in the Teacher's Brain Based on today's lesson, what will I teach tomorrow?

partial understanding are identified for follow up. Because we don't grade these, we're not burdened with the additional time of logging items into the grade book. In our classes, these writing-to-learn activities are considered as part of the students' overall participation.

Although some of these short writing events are meant to prompt reflective thought ("How do you feel when a hero of yours lets you down?"), many are to promote writing skills needed within the discipline. These include opportunities for students to explain their thinking and summarize their content learning.

Writing to Explain Thinking

Regardless of the discipline, each content area requires that students explain the logic behind their thinking. In the humanities and social sciences, this is often evidenced by the writer's ability to make a claim, support it with evidence, and use it to justify the stance on a topic.

Three Parallel Questions

In addition to solving each problem, Mathematics teacher Dina Burow requires students to answer three parallel questions:

A. How did you start the problem?

B. Explain where you got stuck and why OR explain the steps taken to solve the problem.

C. What resource(s) did you use to complete the problem (notes, teacher, friend, parent, my big brain, etc.)?

For instance, World History teacher Beth Roberts asked her students to comment on Public Accuser Maximilien Robespierre's reign of terror after the French Revolution. "Take a few minutes to explain from Robespierre's point of view, why it was so important to enact the Law of Suspects, which suspended the civil liberties the revolutionaries had fought for in the first place." For the next few minutes, students conferred with one another and made a list of justifications that Robespierre would likely have used: a counter-revolution would jeopardize the accomplishments of the revolution, spies were everywhere and no one could be trusted, and that he was trustworthy because he had overseen the execution of King Louis XVI.

Ms. Roberts then led a whole-class discussion of Robespierre's rationale, reinforcing that he was really saying that the ends justified the means. Primed for the persuasive techniques he might have used, the class examined excerpts of Robespierre's speech justifying the use of terror to create a "Republic of Virtue." By using a writing-to-learn prompt to focus on Robespierre's justification, Ms. Roberts strengthened her students' ability to do so in more formal writing.

Explaining thinking doesn't usually lead to the guillotine, as it did in the case of over 30,000 French citizens. More often, it is a tool for learners to explain their use of a process. In mathematics, providing a rationale for solving a problem is considered essential because it is often used in public discussion. Others may agree or disagree about how a series of steps builds to a logical and accurate conclusion.

Math teacher Dina Burow prepared her students to support their answers in discussion by making sure they practiced doing this in their homework. During the first week of

school, she explained to her students that, while the number of problems assigned for homework will not be large (somewhere between 3 and 10), they would be required to follow what she calls "Homework ABCs"—three parallel questions designed to build metacognitive awareness.

On a review problem about solving inequalities, a student named Kaitlyn wrote for A, "I have to divide or multiply both sides by a negative number. I have to change the symbol." Another student, Oscar, wrote in the C portion, "First I thought it was hard but now it is easy. It's easy because I come after school to get help." In each case, Ms. Burow gained insight into how the individual learner applied process knowledge to solve problems. In addition, the responses informed her as to which students were struggling to notice their own metacognitive processes, which is necessary for understanding the logic behind mathematics.

Writing to Summarize

A chief purpose of academic and professional writing is to summarize and explain. There is a premium placed on conveying information accurately and concisely. Even within formal writing, summaries appear throughout as a means for developing coherent writing that keeps the reader engaged and comprehending. A problem novice writers often face is writing summaries that are both accurate and concise. Fearing that

they may have left out an important detail, they put in *all* the details, often ending up with a summary that is as long as the original text. We have found that teaching students a GIST writing strategy fosters the self-editing needed to write concisely (Frey, Fisher, & Hernandez, 2003).

Generating Interaction between Schemata and Text (the real name for the GIST acronym) was developed by Cunningham (1982) as a way of constraining chunks of information in order to develop brief précis

The Gist of GIST
(Cunningham, 1982)

♦ Identify a text you want students to summary (not too long).

♦ Decide on natural break points, especially major points, where summarization should occur.

♦ Chunk the text into smaller segments of 1–2 paragraphs each.

♦ Have students read the entire text first to understand the article globally.

♦ Model summarizing for students by thinking aloud about how you compose a single sentence that addresses the main idea of the segment. Repeat this modeling exercise for each of the segments.

♦ Re-read your GIST sentences aloud for students and make any revisions necessary to smooth out the text you've written.

♦ Guide students as they apply the GIST writing strategy to another piece of text.

writing. We introduce a short piece of text (3–5 paragraphs in length) for students to read through, and we discuss the main ideas presented. We then reread the text, creating break points throughout, usually at the end of each paragraph. We set limits on the writing-to-summarize activity: Students may write only one summary sentence per break point, although the sentence can be longer. (Our students often discover why dependent clauses are so useful!) This constraint challenges them to focus only on the most important information. In a few minutes, they have a series of sentences that forms a summary of the text they read and discussed.

Science teacher Jack Woods used the GIST summary writing approach in his biology class. Students are required to summarize an article of their choosing each week to profile the importance of biological science in our daily lives. "They need to be able to describe the information in the article quickly and accurately," he said. Earlier this year, scientists disclosed that Atlantic tomcod, a type of bottom-feeding fish in the Hudson River, has developed a gene that protects it from the negative effects of PCBs, a toxic pollutant in their environment. Gabriela, a student in his class, used the GIST approach to write her Science Weekly:

Scientists were puzzled because some fish in the Hudson River seemed to be doing well even though there were pollutants such as PCBs in the water. They expected to find the fish population declining. Instead, they discovered that the Atlantic tomcod had genetically adapted to PCB pollution and could now tolerate the poison. The biggest surprise was how quickly this had happened because evolution usually takes hundreds or thousands of years, not the 40 years for these fish.

Building Stamina Through Timed Writing

Without attention to time spent writing in short spans, students sit passively. A time-sample study of the opportunities for literacy experiences in a high school revealed that only two percent of instructional time (1.3 minutes per class period) was dedicated to writing (Fisher, 2009). With little exposure to on-demand writing, it is unlikely that students would be able to sustain coherent thought on paper during 45-minute standardized writing assessments, including those that are required for high school graduation. One important element that affects students' ability to do well is that they lack the stamina to write for an extended period of time and therefore give up too soon.

Fluency in writing, the ability to quickly create a cohesive message, should be a major goal of writing instruction. Students may lack writing fluency due to a number of reasons: few opportunities given to write, fear that what they write may be judged as incorrect, or a lack of metacognitive awareness about how to begin. As students develop their writing fluency, their word choice and phrasing becomes more sophisticated. They add expression and depth to their writing. They write longer pieces in shorter amounts of time. However, fluency building is often a neglected aspect of writing instruction.

Daily Power Writing is an instructional tool designed to eliminate the common pitfall of writer's block during initial stages of the writing process (Fearn & Farnan, 2001). The main goal is to build stamina and confidence in writing. Over time, students will improve in writing speed, ease, and automaticity.

To begin, the teacher provides a prompt and directs students to write

as much as they can as well as they can. The prompt can be just about anything related to the classroom

Power Writing

Power Writing is an instructional routine that's easy to get started in your classroom, and can be used on a daily basis for writing in the discipline.

- Provide students with vocabulary term being used in the content to spur their thinking and write it on the board.

- Instruct students to write as much as they can, as well as they can for 60 seconds.

- At the end of 60 seconds, tell them "pencils up" and ask them to count the overall number of words and tally it in the margin. We also ask students to circle errors they noticed while re-reading.

- Have students repeat this procedure two more times, giving them a new vocabulary word each time.

- We have them to write their Power Writing passages in their notebooks so it's always available. Each week, we ask them to choose a previously written entry to extend into a more formal explanatory or persuasive piece.

content. For example, a recent prompt we used simply said, "Euthanasia: Pro or con?" so that student's background knowledge was activated in advance of a read aloud from Trueman's *Stuck in Neutral* (2000, HarperCollins). Figure 2 contains Edgar's response to this prompt, while Figure 3 is Martin's.

Edgar, whose own father died of a debilitating disease when he was young, is intent on becoming a medical researcher specializing in rare diseases. His response reflects his experiences and beliefs, and provides us with a glimpse of how he will perceive the characters' perspectives in this novel. Martin, who is interested in becoming a physician, offers a qualified answer that is likely to be challenged further as he learns about Sean, the novel's protagonist. Students write for one minute and when the timer rings, they count the number of words they have written. This process is repeated two additional times, with different prompts. After the third cycle, students graph the **highest** number of words written on individual graphs. In some classrooms, especially English classrooms, students' circle spelling and grammatical errors that they notice in their own writing. Errors that

they don't notice inform the teacher about instructional needs. As students' proficiency increases, the amount of time for each Power Writing session may be varied as students' confidence and writing fluency increases. The time spent on Power Writing can be modified between 30 to 120 seconds so students don't become accustomed to writing for a specified amount of time.

Please Write Soon

Although writing has traditionally been considered the domain of the English teacher, the focus on college- and career-ready skills requires participation by all teachers. Essays and research papers are important performance measures; however, taken alone they represent too little of the overall classroom curriculum. Frequent writing of short summaries, explanations, speculations, and persuasive pieces helps students learn content. In addition, students build stamina as they learn to write on demand for a variety of reasons. Further, they provide teachers with insight into student thinking and thus allow the crucial link between assessment and instruction.
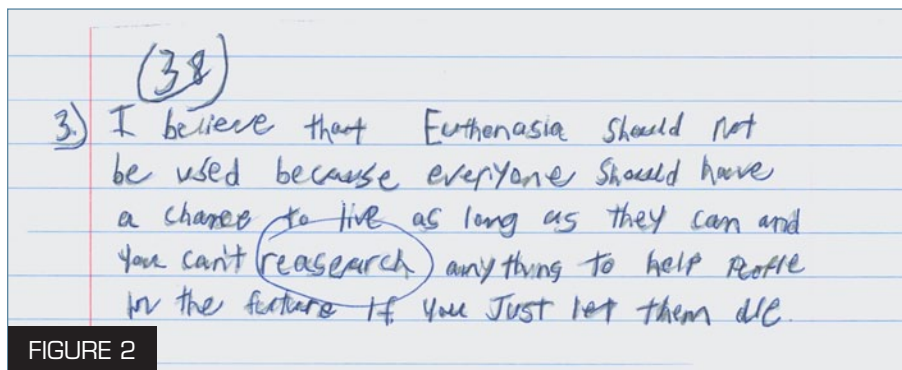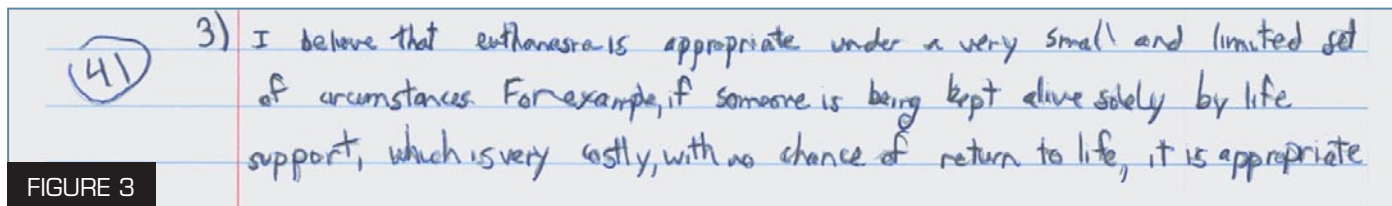

FIGURE 2

FIGURE 3

Additional Resources

Knipper, K.J., & Duggan, T.J. (2006). Writing to learn across the curriculum: Tools for comprehension in content area classes. *The Reading Teacher, 59*(5), 462–470.

This article offers a repertoire of writing strategies that content area teachers in grades 4–8 can put into practice before, during, and after reading to strengthen students' comprehension and extend their critical thinking. Strategies described include learning logs, quick writes, listen-stop-write, microthemes, framed paragraphs, text boxes, biopoems, word maps, and ABC books. In using them, students write to learn, thinking about and interacting with text in a variety of ways. Writing to learn engages students, extends thinking, deepens understanding, and continues the meaning-making process.

Baines, L., & Kunkel, A. (2010). *Going bohemian: How to teach writing like you mean it* (2nd ed.). Newark, DE: International Reading Association.

Bohemian writing lessons rely on unconventional strategies, art and multimedia, competitive games, and indirect approaches to teach some of the difficult lessons of writing. All of the 42 lessons in this book are classroom proven and can be worked into you current curriculum immediately. Lessons include reproducibles to use in your own instruction and student examples that show you what's possible.

Hansen, J., & Kissel, B. (2011). K–12 students as writers: Research and practice. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching the English language arts* (3rd ed., pp. 271–277). New York: Routledge.

This updated research handbook contains an excellent summary of the evidence on writing instruction from two of the worlds' foremost authorities on writing instruction. In this chapter, the summarize a number of studies in an accessible way and provide recommendations for practice.

Gardner, T. (2009). Teaching with blogs. Retrieved April 18, 2011, from http://www.readwritethink.org/professional-development/strategy-guides/teaching-with-blogs-30108.html

Blogs have rapidly become a primary forum for writers to summarize, explain, and persuade on topics of interest. This strategy guide, written for secondary teachers, demonstrates how these short written entries can be composed, published, and extended through an online classroom community.

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FIGURE 1. Writing-to-Learn for Informative Feedback

Standardized Tests
Informative feedback comes months after the fact

Consensus Scoring
Informative feedback comes days or weeks after the fact

Teacher-based Assessments
Informative feedback comes days after the fact

Writing to Learn
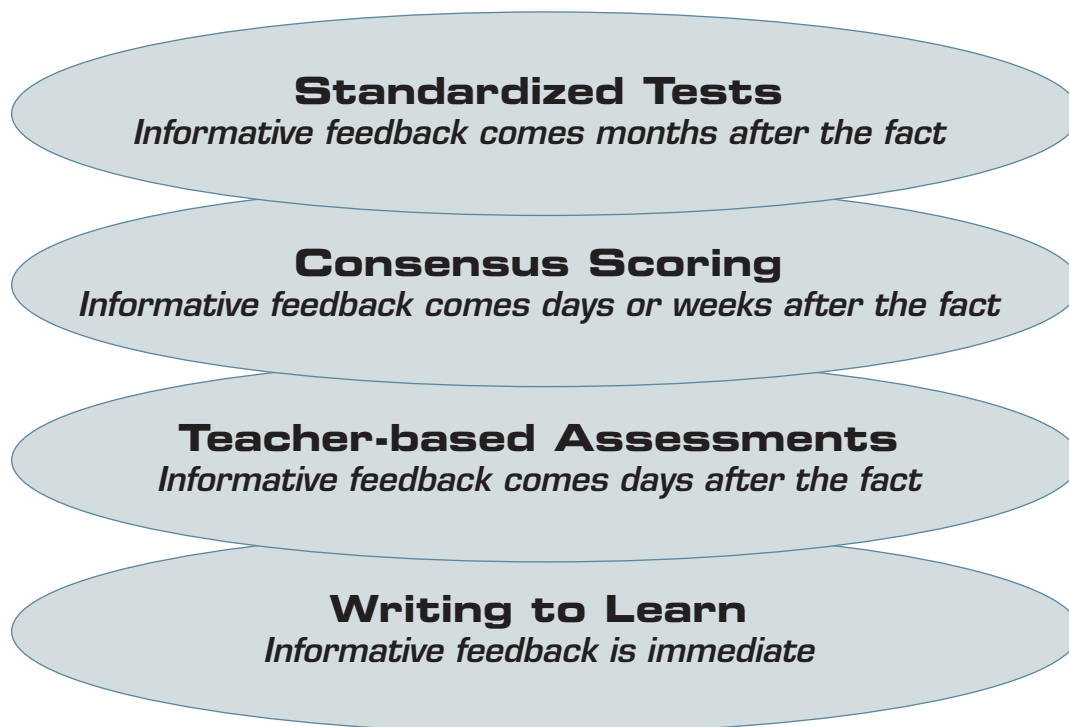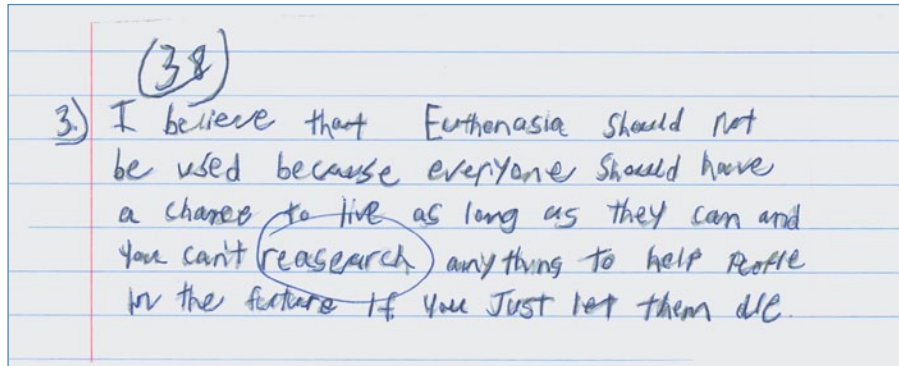*Informative feedback is immediate*

FIGURE 2. Edgar's Written Response

I believe that Euthanasia should not be used because everyone should have a chance to live as long as they can and you can't reasearch anything to help people in the future if you just let them die.

FIGURE 3. Martin's Written Response

3) I believe that euthanasia is appropriate under a very small and limited set of circumstances. For example, if someone is being kept alive solely by life support, which is very costly, with no chance of return to life, it is appropriate

I believe that euthanasia is appropriate under a very small and limited set of circumstances. For example, if someone is being kept alive solely by life support, which is very costly, with no chance of return to life, it is appropriate.