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Integrating Writing in All Curriculum Areas

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Abstract

Writing is a foundational tool and skill that appears in schools and classrooms around the world. As writing takes on many different forms and is taught in many different ways, one thing remains the same: its purpose is to get a message to the audience. However, the audience should not be limited to an English teacher in an English classroom. This literature review shows the connection of writing and the importance of its use outside of the regular English classroom and being infused into other content areas. As a simple tool to integrate into those other classrooms, writing can boost the students' content knowledge through informative, opinion, and narrative pieces while practicing the skills that have been learned in an English classroom. Writing across the curriculum (WAC) is a movement that emphasizes this point. Looking at many different educational levels and incorporating writing into the curriculum, the ease of integration through a collaboration of teachers and the different methods used will be evident.

Integrating Writing in All Curriculum Areas

Reading, writing, and arithmetic has been the foundation of learning for centuries. As society has become a more technically sound world and history is being made every day, new 21st century skills continue to make a push for becoming add-ons for students' foundation in learning. In elementary classrooms, educators are pressed to cover many subject areas, and in high schools, so many different courses are offered that students have to cut out certain subjects to accommodate the workload. Educators can adjust to the changing demands. Educators need to be able to be as well-rounded in teaching as students are in learning, and one way that can be done is by integrating writing in many different curricular subject areas and not just in an isolated English-language arts (ELA) classroom.

Literature Review

Writing across the curriculum (WAC) was first mentioned in Britain in the late 1960s by James Britton and colleagues after researching the writing abilities of 11 to 18-year-olds (Stock, 1986). This revelation incorporated the idea that language was an important part of the learning process not only in writing but also in speaking (Stock, 1986). Students were not given a time or opportunity to share thoughts, discoveries, and what had been learned. It seemed that sitting, listening, and speaking to answer questions were the only requirements for students in the classroom. "Usually the student was writing not to enhance her own knowledge, but to display it, as a sort of performance for her teacher-as-examiner" (Mahala, 1991, p. 776). Stock (1986) continues:

> Understanding and knowledge are not things "out there" that students can get. Through
> their slogan, writing across the curriculum, Britton and his colleagues were reminding
> teachers that students create their own knowledge and understanding primarily through

> the use of language, exploration with language, and all the stops and starts, ummms and
>
> ahhhs, mistakes, reformulations, and revisions that characterize exploratory language. (p.
>
> 99)

These statements point out the fact that WAC is not the idea of non-writing educators to teach

writing, but to be aware that incorporating writing into the subject area can be vital to the success

of students through understanding the content. However, just because a non-writing educator is

not teaching writing skills explicitly, does not mean that the skills that are taught by the ELA

teachers should be disregarded. Dossin (1997), a writing specialist at the State University of New

York, shares seven tips to help non-writing educators to help students with writing skills as the

skills are incorporated more into the classroom. Meeting individually with the students, having

consistent expectations for all writing topics, peer tutoring, and positive reinforcement are just a

few of the tips she identifies. However, the one that stands out the most in reference to WAC is

Dossin's (1997) sixth tip:

> I have found that I cannot convince students that competence as a writer is important
>
> without the help of my colleagues. If I am the only one insisting on high standards for
>
> written work, my students consider me a crank and feel little motivation to exert
>
> themselves. I have made it a personal crusade to convince my colleagues of the
>
> importance of teamwork and a united front. (p. 15)

In education, it is easy to close the doors and for educators to limit outside interaction and

influence, but collaboration and making connections with one another creates a more cohesive

environment and can also show the importance of working with one another to the students.

Anderson (2003), a writing and literature professor at Springfield College in Massachusetts,

shares some research on 25 different teachers evaluating one piece of student writing and the

vast differences between the evaluations. These differences all stem from what the teachers saw

as what made the students' writing good. It was subjective. Anderson (2003) continues on, "Is it

possible to establish common standards in writing for all courses in which essays are assigned

and, at the same time, not infringe on the integrity of evaluators nor limit the means of

expression available to students?" (p. 186). As an educator, Andeson saw the importance of

collaboration and to make those evaluations more objective and cohesive across the curriculum.

Writing instructors from the Springfield College Writing across the Curriculum committee

introduced a book, "*Reading Writing! How to Evaluate, Edit, and Respond to What Others Have*

Written to colleagues (Anderson, 1999, p. 186). This book gave professors in other disciplines

different ways to evaluate writing in the classroom. It also offered suggestions for teaching

students on how to evaluate work to avoid repeated mistakes. Even the writing tutors used this

book to assist students. Professors could still focus on the content that needs to be taught, but the

book also helped improve students' writing, which then helped improve the content. Anderson

(2003) concluded the article by stating:

> Establishing writing courses with in-common learning objectives, introducing faculty
>
> members to different ways of responding to student essays, and providing students with a
>
> writing guide and tutors trained to be supportive in their approach to writing not only
>
> created consistency in the ways students wrote and instructors evaluated, but the students
>
> wrote better and the instructors evaluated more effectively. (p. 187)

Although this plan was developed and implemented at the college level, it is obvious that this

type of concept can be achieved at other educational levels. From school districts large and

small, through communication, it can be adapted. As school districts spend time aligning the

curriculum across grade levels through the Common Core, these conversations should also be

happening. Terminology, expectations, and the development of criteria that should be met allows a more united front when it comes to teaching the students. Not only does it give the students a better understanding when moving from class to class, but it will also be good assistance from year to year. Smagorinsky (1995) also emphasizes this point concluding "the relationship between content and process of writing is critical, with the process varying depending on the writer's purpose, the substance of the written expression, and the social context of writing" (162). One example of this cross-curricular adaptation comes from Vestal Senior High School in Vestal, New York. Zimmet (2000) discusses how 20 high school teachers along with local university professors collaborated on creating projects where writing was integrated into learning. By having small writing assignments such as journaling, writing down a question, helping students focus during lectures, learning how to take notes, participating in discussions, and understanding what has been read all the way to the bigger graded assignments such as essays, memoirs, or poems created a plethora of different ways writing was integrated (Zimmet, 2000). Working with the university professors to create some more engaging lessons where the professors could lead field trips or lectures also helped prepare the students for a variety of different scenarios that may happen in the future. As teachers also collaborated, an environment was created where the students were encouraged to collaborate and peer review to keep the conversations going. When working in a WAC atmosphere, collaboration is a key part in not only creating the lessons but understanding the expectations of each teacher for the sake of the students learning experience.

    In the Common Core, starting in Kindergarten and leading up to the twelfth grade, all grade levels asks educators to cover three areas in writing: opinion/arguments, informative/explanatory, narratives (National Governors Association Center for Best Practices &

Council of Chief State School Officers, 2010). As students move through each grade, those standards are developed more in depth, but the basic skill is always present. These three different types of writing can easily be incorporated into any classroom and not just in writing. Students are asked to explain often in other classes. If all teachers have the same expectations by using the standards as a guide, students will know what to do when given that type of assessment. Instead of spending time reteaching what an opinion piece looks like from year to year or teachers having different expectations of what that might look like from class to class, teachers should be discussing with one another to create a more cohesive and connected learning environment for the students. Not only is writing a subject that can be interconnected in the core subject areas, but it can also be something that needs to be incorporated into 21st Century Skills as these are topics all teachers at all levels can address. In 2010, the Iowa Core combined with the Common Core (Iowa Core, 2014). As the Common Core only has standards for English-Language Arts and Math, the Iowa Core also includes standards for Science, Social Studies, and 21st Century Skills. For the K-12 21st Century Skills, civic literacy, employability skills, financial literacy, health literacy, and technology literacy are all different areas that should be covered and a common theme is present: literacy. Literacy is the idea of being able to read and write well and in this case, having the ability to read and write well in these skill areas. As many different teachers can cover these standards, having common expectations will help the students understand even more. It is understood that figuring out these common expectations and terminology may be difficult as everyone might have an opinion, but the Iowa Core and Common Core were created for a specific purpose: to prepare students for college or the workforce (Iowa Core, 2014). When figuring out the expectations for WAC, teachers need to keep that in mind.

As those expectations are set, one 21st Century Skill has definitely made a large impact on students today. Society has definitely moved into a more digital age; some may argue that writing in some shape or form has become less prevalent or needed. However, with blogs, Twitter, Facebook, and other forms of social media, people are sharing viewpoints in written form more than ever. Technology Literacy is prevalent today more than ever. One skill that is present in Technology Literacy in the Iowa Core is 21.9-12.TL.2: "Use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others" (Iowa Core, n.d., p. 49). In some platforms, there are limitations to how much students can or want to say, so the words need to be more concise and clear to get the point across. Knipper and Duggan (2006) state "written communication skills are extremely important for success" (p. 463). Often times when students share information in a subject area, ideas may seem muddled or confusing. WAC can help clear up some of those situations as students practice more in different subject areas to help get ideas out in the open. When presenting information in any form, it is important that the information is not misleading. Maria Grant and Diane Lapp, professors of education, make a point about implementing writing in science. "If we want to empower our young people to have a voice in today's issues related to science, they must know how to convey their thinking in written form" (as cited in Ferlazzo, 2018). The word science in that statement can be replaced with any other subject such as social studies or math and it will still ring true. Placing a wrong verb or using the incorrect tense can leave recipients misguided. Many times, grammatical mistakes in a comment, post, blog, or email has distracted the reader from what the writer is trying to say. Rather than focus on the content, the reader focused in on the mistake or the ambiguities of the text. The more students are exposed to proper written word communication, the more it will help hone that

skill. However, studies have shown using technology in a written program does not boost writing skills in significant amounts. Cramer and Smith (2002) and Goldenberg, Meade, Midouhas, and Cooperman, (2011) have conducted studies where technology was used in middle school classrooms as a part of the writing curriculum. In both studies, although the direct content was being measured was different, there was no substantial difference in the writing skills gained in each group except in one area. Cramer and Smith (2002) focused on ideas, organization, and voice, which are three of the 6+1 traits of writing that will be discussed in a later part of this review, and Goldenberg et al. (2011) conducted a study on a timed writing task or in writing engagement based on the Writing Apprehension Test. Also, most of the technology being used in both studies were basic uses such as using word processor, PowerPoint, research purposes. In one of the studies, one school did use technology to create a movie, and in the other study, the program Writing Matters, which includes digital tools to help students work through the writing process and other writing skills, was used. In the study by Goldenberg et al. (2011), students who participated in the Writing Matters program that initially had lower scores did have more significant gains than the counterparts. These studies tell us that incorporating technology into a writing lesson is not always going to show growth in writing. However, the goal of most of the technology standards in the Iowa Core is not how students can use technology to grow in writing, but how students can use writing to demonstrate technology literacy. When it comes to WAC, just using technology with writing may not be enough to help the students develop a strong skill set. There needs to be an intentional drive to not only improve the students writing but also use those writing tasks with technology to help the students understand the content better.

When content teachers are implementing WAC, there are a few directions that can be followed. Stock (1986) discusses two different types of models that exemplify the WAC movement. One model that is present in a few schools is where the English teachers teach the other teachers in other content areas how to correct pieces of student writing that is similar to how it would be corrected in the ELA classroom. This is seen as more of a "Grammar Across the Curriculum" (Stock, 1986, p. 99). The second model has teachers in content areas use different types of pieces of writing to demonstrate student learning through book reports, laboratory reports, or English and content teachers working together on a project (Stock, 1986). The replication of how something should be written is amplified in this model. Stock (1986) continues on that the WAC movement should not be just limited to these two types of models, but:

> Models of writing across the curriculum need to go beyond imitation and help students make their way, through conversation and writing, into several discourse communities that comprise the modern academic world. Because students are newcomers and because they learn through language, they must use the language they know to write about what they know and what they have experienced. (p. 99)

Stock (1986) offers four different features that should be present in a WAC model that includes:

1. Students are provided with opportunities to bring their own subjects into the classroom and to write frequently for each other and the teacher.

2. Include a variety of opportunities are provided for students to think and write their way toward understanding a subject.

3. An interactive community: a classroom of writers writing for each other.

4. Writers are always teachers: Writing purposefully about subjects that interest them for

audiences that have a need or desire to know about their topics. (p. 100)

Although both models that Stock (1986) presents represent two different concepts, being

meshed together is possible when the previous four features are incorporated. Knipper and

Duggan (2006) share similar ideas and present two different types of writing: writing to learn

and learning to write. WAC focuses on the latter. "Writing to learn differs from learning to write

because the writing produced is not a process piece that will undergo multiple changes resulting

in a published document" (Knipper & Duggan, 2006, p. 462). In this retrospect, the model for

WAC that Knipper and Duggan ties in with what Stock referenced: that WAC is not content

teachers teaching students how to write but using writing to engage the individuals more in the

subject area. Brandenburg (2002) mentions that integrating writing with reading enhances

comprehension (as cited in Knipper & Duggan, 2006, p. 462). Smagorinsky (1995) also

references the "writing to learn" terminology (p. 160). Smagorinsky (1995) states "writing across

the curriculum is believed by many to be the solution to underdeveloped thought among students

in all disciplines…the argument goes, the process of writing can help learners develop thought

regardless of the content area" (p. 161). Not to discredit learning to write, Knipper and Duggan

(2006) continue on mentioning that writing skills, especially in the area of communication, are

important skills to have in today's career choices. When students are able to express insights in

writing, writing to learn becomes clearer and easier to work through. In this research, Knipper

and Duggan (2006) press the idea of writing to learn and how it coincides with WAC. Even

though the researchers do not directly state that content teachers need to teach writing skills, it is

stated that "Good content writing is the result of quality instruction. Students learn to write when

teachers surround them with examples and models, give them expectations, let them make

decisions and mistakes, provide feedback, and allow them time to practice in realistic ways"

(Knipper & Dugan, 2006, p. 463). Learning to write and writing to learn should go hand-in-hand.

For students to be successful in writing about the content, good writing skills are needed to get

the message across. Ferlazzo (2018) conducted a discussion asking teachers how writing is

integrated into science classes. Amy Roediger, a science department chairperson and

instructional coach at Mentor High School in Ohio, shared how using the Common Core

standards along with other testing expectations and rubrics allowed students to continue practice

ELA skills outside of the ELA class. "Consistent use of an adapted rubric provides students with

extra chances to practice the important work that begins in ELA classes. Using these skills

outside of English class increases the likelihood that they will become habits of mind" (as cited

in Ferlazzo, 2018). How content area teachers view the writing of students is also important.

Gahn (1989) states that many teachers avoid writing tasks because of the amount of work that

needs to go into it to grade (as cited in Knipper & Dugan, 2006). As Roediger states above, not

only is the use of rubrics and checklists beneficial to address certain requirements in students'

writing, but it will alleviate some of that stress of assessing students work. Both of these

strategies allow the students to monitor and assess work more effectively to ensure all thoughts

are present and clear. These rubrics and checklists can also tie into learning to write and stresses

what the students may have learned in the regular ELA class. In the writing to learn strategy,

content teachers are encouraged to give examples and models of what the teacher might be

looking for in the students' writings. However, teachers need to tread carefully in this area.

Although modeling is a good guide for students, teachers need to be careful to not give the

students what needs to be said and rather focus on the how to write and not what to write. Mary

K. Tedrow, an English teacher, was another responder to the Ferlazzo (2018) discussion. Tedrow

replied, "Writing in science should mimic writing done by scientists" (as cited in Ferlazzo, 2018). Tedrow continues on discussing that the writing in science classes should not only be reflective but "inquiry spaces" (Ferlazzo, 2018) where students are searching for answers in writing and building off of one another. There are times when students ask to see an example, but examples should be given when established expectations are in place. If it is an open-ended writing assignment, students should be encouraged to choose a writing task that fits the learning preference. Flammia (2015) enlightens the idea that teachers should not just limit WAC to content area teachers. Flammia (2015) suggests that WAC should also be considered as Writing Across the Globe (WAG). "Such [interdisciplinary] courses can help students develop global competencies that are particularly important to prepare for the workplace, to help them develop as well-rounded citizens, and to develop writing competency and critical thinking ability" (Flammia, 2015, p. 701). This idea allows students to become more culturally aware of research and constructing written work. Smagorinsky (1995) also sees a need to change the title of Writing Across the Curriculum to Composing Across the Curriculum. This change in terminology emphasizes two things: content teachers are not teaching writing, but rather using writing to help students understand the content, and writing is not limited to writing but the idea of composing or creating tasks to understand the content. Smagorinsky's (1995) research suggests:

> Exclusive focus on writing as a mode of learning limits, rather than enables, students to construct meaning across the curriculum and that students would benefit from having more flexibility in the media through which they express and develop their understanding of conceptual knowledge in school. (p. 164)

With different forms of learning, Smagorinsky (1995) highlights that writing should not just be writing. With all the research that is present, it may seem that most researchers do not see writing as just writing, but Smagorinsky (1995) makes a valid point that we should not see writing as just writing as it can take many forms.

Writing tasks can take place in many forms that content teachers can use when incorporating WAC. One-way writing can be implemented in other subject areas is through reflection on a task. "The main goals of reflective writing are for students to focus on what has been done, what has been learned from the task, and how it has changed or likely to change as a result of this learning" (Hickman, Quick, Haynie, & Flakes, 2000, p. 18). The researchers continue on with the concept that students' reflective writing needs to be organized and understood by the audience and that the writing cannot be just words written down but thought-provoking. Hickman et al. (2000) continue with different reasoning on how reflective writing can be used in the language arts, math, science, and social studies classrooms. Some examples of different types reflective writing include reflecting on what the student has read, explaining how to solve a problem, explaining the functions of different science concepts, or even reflecting on different events that have happened in history in the respective classes. Gonzalez (2015) offers *7 Easy Ways to Support Student Writing in Any Content Area*. The first one that is mentioned is understanding how the writing process works. Knowing the process of pre-writing, drafting, revising, editing and then finally publishing can be helpful steps for students to follow to get thoughts written down, organized, and refined to get to the final. As these are steps that many ELA teachers use in the classroom, most students should know the process, and then it emphasizes a skill that was taught in another classroom. Although a formal version of this does not need to be used every time, making sure students know how to double check work and

improve it, will help improve learning the content. Modeling, providing sentence starters, writing

in class, having students read writing out loud, grading with the students (usually a rubric) and

allowing students to rewrite are the final six ways to support those writers (Gonzalez, 2015).

Again, most or all of these tools are used in a regular ELA class and accentuates how students

can apply that knowledge in a different situation. Not only can content teachers use the writing

process to guide students' learning, but teachers can use another common tool in the ELA

classroom: 6+1 Trait Writing. Writing instruction involving the traits of writing developed in the

1960s (UpWrite Press, 2014). After a group of 50 professionals studied multiple student works,

there was a trend present of qualities that made the work well-written. Two other groups ran

similar studies and came up with similar solutions leading to these traits of good writing

(UpWrite Press, 2014). Ideas, organization, voice (how the writing sounds for the message of the

writing), word choice, sentence fluency (the flow and variety of sentences), conventions

(grammar and spelling), and presentation attribute to pieces of solid well-written work. Many

ELA teachers use these traits to guide students into writing pieces of good quality and other

content teachers can use the same writing model to guide students in the right direction.

As it has been mentioned before, WAC is a program that can be integrated at any grade

level. Peterson (2007) discusses how WAC can be implemented in classrooms where one subject

is taught to help students enhance the learning experience, and also implementing WAC in

classrooms where ELA is taught with others subjects by fusing the subject areas together.

Usually the latter is more for the junior high and high school levels where the former is leading

to the elementary. It may seem that elementary teachers have an easier advantage to implement

writing in other subject areas as multiple subject areas are taught, but just because a teacher does

not "teach" a certain subject, does not mean that it cannot or should not be integrated into the

curriculum. Peterson (2007) shares an anecdote about how an eighth-grade science classroom used different writing tasks to physics. Students "wrote mystery stories, cartoons, manuals, parodies, newspaper articles, and plays to show how mechanical advantage concepts could be applied to real life" (Peterson, 2007, p. 26). Peterson (2007) continues on with the reflection of the teacher, Leonora, and how the motivation behind the task and how well the students learned the science concepts through writing reinforced the fact the writing was a significant means in learning the concept. Brozo and Simpson (2003) share that "writing not only facilitates the learning of content-area concepts but also engages students in higher thinking and reasoning processes" (as cited in Peterson, 2007, p. 26). Through writing, students are able to engage in the material at another level. Students will not just be able visually or auditorily take in content, but through writing, take what has been seen and heard and create and explore ideas.

Conclusion

The skill of writing is still very prevalent today. Although students may not see a direct need for it, allowing this skill to be present in other subject areas, helps see the relevance. In our world today, where students' voices have the opportunity to be heard past the school walls with technology and social media, being able to use the skill of writing in multiple areas is important. With sending a quick email, replying to someone's comment on a thread, or being able to present information in a formal setting, students need the proper skill set to be prepared, and the ability to articulate thoughts is imperative for success in the workforce. As studies have shown, integrating writing in other content areas allows students to comprehend the content even more. Tedrow states "Frequent, ungraded, easily shared, and informally assessed writing builds content area understanding while improving fluency: the ability to produce written thought without fear or anxiety" (Ferlazzo, 2018). When students are given the opportunity to get thoughts down on

paper and out in the open, knowledge of the content expands. Rather than being told what to write, students will be able to produce it independently. Although integrating writing into a content teacher's curriculum may seem uncomfortable, through collaboration with other teachers and knowing what has been done in other classrooms, allows for an easier transition for those who may be struggling with how to incorporate the skill.

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