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# The impact of blogging on K-12 student learning: engagement, self-expression, and higher-order thinking

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# The impact of blogging on K-12 student learning: engagement, self-expression, and higher-order thinking

## **Abstract**

Blogging has become an increasingly important instructional tool in education. The purpose of this literature review is to explore the impact of blogging on K-12 student learning with special emphasis on engagement, self-expression, and higher-order thinking. The review analyzed thirty scholarly articles that incorporated perspectives on best practices associated with blogging. Special attention was given to empirical research with sound research design, and the scope was limited to sources published between 2004 and 2014. The results of the review find that blogging can increase student engagement by cultivating a student-centered online environment that motivates students to write for an audience. Furthermore, when paired with effective instructional design, the review found that blogging can promote student self-expression and create opportunities for higher-order thinking.

THE IMPACT OF BLOGGING ON K-12 STUDENT LEARNING:  
ENGAGEMENT, SELF-EXPRESSION, AND HIGHER-ORDER THINKING

A Graduate Review

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by

Brian McGurk

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## **Abstract**

Blogging has become an increasingly important instructional tool in education. The purpose of this literature review is to explore the impact of blogging on K-12 student learning with special emphasis on engagement, self-expression, and higher-order thinking. The review analyzed thirty scholarly articles that incorporated perspectives on best practices associated with blogging. Special attention was given to empirical research with sound research design, and the scope was limited to sources published between 2004 and 2014. The results of the review find that blogging can increase student engagement by cultivating a student-centered online environment that motivates students to write for an audience. Furthermore, when paired with effective instructional design, the review found that blogging can promote student self-expression and create opportunities for higher-order thinking.

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## Introduction

Twelve million young people in United States from the ages of 12 to 17 regularly create and publish a variety of information and media online (Zawilinski, 2009). These young people create and consume content on their personal blogs, Facebook, Twitter, Instagram, Vine, or any other digital media accounts in order to document and publish the daily happenings of their lives. The Millennial Generation, or simply Millennials, which is typically defined as anyone born in 1982 or after (Howe & Strauss, 2009), exist in the digital world almost as much as the physical one. For educators, the most challenging problem is bridging this gap between experiences inside and outside school. Students are competent at engaging and expressing themselves outside school. However, inside school, the problem is that traditional curriculum largely ignores or refuses to adapt to the digital world that students exist within. The gap between student experiences inside and outside school is plaguing educational effectiveness in today's society. In the hope of bridging this gap, blogging, which is any web interface that allows a user to publish content and post comments (Coiro, Knobel, Lankshear, & Leu, 2008), is increasingly an educational tool that educators have begun to adopt in the hope that it may yield positive effects that allow students at all levels of K-12 education to engage in more meaningful learning.

The importance of determining how the effects of blogging may engage students in more meaningful instruction cannot be overstated. This is particularly apparent when one considers the need to increase achievement in important 21st century skills such as collaboration, communication, creativity, and problem solving that are often associated with higher-order thinking (Rebora, 2013). Beyond traditional reading and writing, new online literacies such as being able to effectively communicate using online text, imagery, sound, and video is increasingly important in today's rapidly changing society (Alvermann, 2008). For example, a

recent Gallup poll conducted in early 2013 found that a majority of students are not adequately exposed to 21st century skills such as communication and problem solving. In fact, 59% of respondents indicated that they learned most of these skills outside of traditional schooling (Rebora, 2013). This should serve as a call to action for educators to find strategies to enhance engagement in instruction with today's K-12 students, who want to express themselves, and need to develop higher-order thinking skills to succeed in the outside world.

When discussing the skills necessary to succeed in today's Information Age, blogging is a logical topic to address since it provides a venue for students to practice important skills such as communication, collaboration, and critical thinking. Blogging is appropriate when discussing 21st century skills since it gives students the opportunity to publish information in various forms such as text, images, multimedia, and links. To many educators, blogging is an appealing instructional option since it is a versatile means of publishing student-generated information. Many teachers incorporate blogging to develop activities that engage students, tap into self-expression, and elicit higher-order thinking. As digital devices become more prevalent, educators are seeking ways to get into students' quality world, since they spend so much time online. Exploring educational activities that engage students, promote self-expression, and require higher-order thinking through blogging can help educators as they consider blogs and how it may affect pedagogy.

The scope of this review limits itself to a ten-year span between 2004 and 2014, and is focused on how blogging impacts K-12 education. Within this broad framework, special attention is given to how blogging affects three specific aspects of learning. The first aspect of learning to receive attention from the review is how blogging impacts student engagement. In addition to engagement, the review focuses on how blogging affects student self-expression.

The third aspect to receive analysis from this review is how blogging influences the development of higher-order thinking skills.

In terms of application, this literature review largely applies to educators who plan to use blogging as an instructional tool. Since the review focuses on K-12 education, this review has particular application for educators such as teachers, technology coordinators, curriculum directors, and administrators who are somehow involved with students at the elementary, middle school, and high school levels. Beyond K-12 education, the review applies to those in higher education who are concerned about expanding the research on blogs and how they impact student learning. The review is intended to give some insight into the effects of blogging on K-12 student learning, which in turn may provide educators with information to determine whether or not blogging is appropriate for their instructional goals. Furthermore, the review seeks to synthesize some of the existing research on blogging in education to hopefully help guide and identify priorities for future research. However, the overall topic of the literature review, as stated previously, focuses on exploring the impact, or effects, of blogging on K-12 student learning. Specifically, there are three research questions listed below that this literature review addresses.

- What are the effects of blogging on student engagement?
- What are the effects of blogging on student self-expression?
- What are the effects of blogging on students' higher-order thinking skills?

## Methodology

The process of obtaining data and research began as a broad exploration that eventually focused on specific search criteria to ensure reliability. The reviewer initially employed a basic Internet search using Google. The search focused on results linked to K-12 educational settings, and the terms used included *blogging*, *effects*, *student engagement*, *self-expression*, *K-12*, and *higher-order thinking*. From this initial search, the reviewer used reliable online publications such as Edutopia and Edudemic to become more familiar with the information being published on how blogging affected a K-12 educational setting. These initial findings helped the reviewer glean additional information on the topic to improve the research process.

After familiarizing with the topic, the reviewer shifted toward more academic research beyond basic Google searches. The review used two academic search engines. The main search engine was UNI's OneSearch!, which is largely powered through the EBSCO database. This search engine was largely used because it filtered specifically for peer-reviewed research. Furthermore, UNI's OneSearch! typically provided access to full text copies of articles and any other resources. Beyond UNI's OneSearch!, the only other academic search engine used was Google Scholar. Within these academic search engines, key terms were used and paired with Boolean operators to identify relevant research. The search terms included the follow words: *blogging*, *blogs*, *engagement*, *self-expression*, *higher-order thinking*, *problem solving*, *elementary*, *middle school*, *secondary*, and *K-12*. Initial searches involving singular terms such as *blogging* yielded over 20,000 entries. In response, the reviewer paired different search terms using Boolean operators to narrow the entries to a hundreds instead of thousands. In addition to using a combination of key search terms and operators, the reviewer used a backward snowball technique to determine frequently cited sources. The bibliographies of the chosen research

articles were used to identify any frequently cited sources that may have been particularly important to the literature review.

During the process of searching these databases, the reviewer used several criteria to determine each resource's credibility. The combination of search terms and Boolean operators largely narrowed the research results. Any resource was eliminated from consideration if it did not somehow relate to one of the research questions regarding the effects of blogging on student engagement, self-expression, or higher-order thinking. Furthermore, if the research did not exist within the K-12 educational setting, the reviewer removed it from consideration. Aside from relevance to the research question, the reviewer added emphasis to choosing peer-reviewed articles from scholarly journals. However, some research was used that was not peer-reviewed, but these sources were either commissioned as reports from professional or government agencies or were written by reputable authors in their field of educational research.

Emphasis was also placed on empirical studies that involved sound quantitative or qualitative design. However, in a K-12 educational setting, there was limited qualitative and quantitative research on blogging as it relates to the research questions of this literature review. To supplement the lack of experimental research, the reviewer chose to include case studies, literature reviews, meta analyses, theoretical papers, survey data, and scholarly articles that focused on best educational and instructional practices related to the research questions. The reviewer placed an emphasis on choosing peer-reviewed literature and using sources that involved in-depth observations from teachers and experts in the field of instructional technology and/or literacy.

Beyond the criteria previously mentioned, the publishing date was also used to filter research results. Studies regarding blogging have most recently emerged in the last eight to ten

years. The reviewer concluded that anything published prior to 2004 had to be seriously evaluated to determine whether or not it was still relevant and credible enough to be included in the review. Ultimately, a source's publishing date was added as a criterion. Any source published before 2004 was eliminated from consideration. Below was the list of specific criteria used by the reviewer to determine the credibility of each information source:

- Is the research relevant to one or more of the research questions?
- Does the research exist within a K-12 educational setting?
- Is the source peer-reviewed and does it include qualitative or quantitative research?
- Is the publisher and author credible in a field of study relevant to the subject of this literature review?
- Was the source published during or after 2004?

## **Analysis and Discussion**

Blogging is a tool K-12 educators are incorporating into their curriculum. The review will begin with analyzing the impact of blogs on student engagement that will focus on making traditional and new literacy education fun and engaging by cultivating audiences for student writing. Following the discussion on student engagement, the promotion of student self-expression through blogging will also be explored. The analysis and discussion will finish with an exploration of how blogs provide opportunities for students to develop important higher-order thinking skills.

### **Student Engagement**

Teachers throughout K-12 education are faced with the daily struggle to engage students in reading and writing. When students are engaged, they show pride and an eagerness to take part in learning activities that are motivating beyond simply receiving a high grade (Skinner & Belmont, 1993). Today's students are almost continuously engaged and linked to the digital world through some type of electronic device. A recent study commissioned by Pearson (2013) found that one-fifth of elementary students own some kind of smartphone. In that same study, statistics of middle school and high school students showed increased levels of digital connectivity. For example, close to 50% of middle schoolers and six out of ten high school students possess their own personal laptops (Pearson, 2013). Based on this information, the major problem for K-12 educators has revolved around engaging an increasingly digital generation in effective reading and writing activities. To address this problem, blogging has become a strategy to stimulate engagement in reading and writing throughout all levels of K-12 education.

**Make reading and writing fun.** To help make reading and writing fun, there must be a

shift away from traditional instruction. In regards to K-12 student media consumption and communication, Millennials increasingly access and publish information using the Internet. For example, a Pew Internet & American Life Project report on teen technology use found that 85% of twelve to seventeen year olds have used digital devices to electronically communicate (Lenhart, Arafeh, & Smith, 2008). Since this data was from 2008, these percentages on the frequency of teen technology use have most likely only increased. Furthermore, beyond informal communication, around 57% of American teenagers operate and publish some type of online blog (Lenhart & Madden, 2005). Compare these trends to opinions on traditional reading and writing, and data has shown that students are increasingly less interested in print based sources, which has proven especially true throughout the middle school grades (McKenna, Conradi, Lawrence, Jang, & Meyer, 2012).

These studies and reports have shown that students would rather engage in online content when compared to traditional textbooks and direct instruction. The 2008 *Pew Internet & American Life Project* report cited previously, found that 78% of teens want to spend more time using computer and online based writing for classroom activities (Lenhart et al, 2008). All in all, survey data from these Pew reports have shown that students increasingly trend toward online reading and writing. Not surprisingly, K-12 educators have begun to incorporate more blogging into curricula for all content areas to create more engaging instruction (Lacina & Griffin, 2012). Blogging has become a vehicle to more readily engage students in reading and writing instruction (Lacina & Griffin, 2012; Witte, 2007).

The quest to achieve more engaging instruction comes in part from educators recognizing blogging as tool to connect content with authentic and meaningful activities. For example, a case study conducted by Shelbie Witte (2007), who is a veteran middle school teacher, examined

the effects of a blogging program she helped administer between middle schoolers and preservice teachers and specifically how it impacted student engagement and learning. Before implementing the blogging program, one student in her class was asked to explain why she did not complete the writing activities for class. The mother informed Witte that her daughter wrote essays and poems on her blog every night online. When the student explained why she wrote online all the time, but did not complete her school writing assignments, she responded by saying, “That’s online writing, not boring school writing” (p. 92). For this particular student, blogging outside of school was meaningful and thus engaging. This exchange between Witte and her student in part led her to partner with a local university professor who taught preservice teachers to create a blogging program with middle schoolers. The Talkback Project, as it was called, engaged students and motivated them to write through blogging. The blogs facilitated a social interaction and relationship between these preservice teachers and the middle schoolers. The blogs simply became the vessel that allowed this interaction to occur. Based on the results of this case study, blogging facilitated a social connection that engaged and motivated students to write.

Furthermore, other accounts of blogging in the classroom have shown that it can make reading and writing fun. When students have fun, they are typically more engaged. For example, Lacina and Griffin (2012) authored a case study that profiled how some elementary teachers incorporate blogging to engage students. Karen Arrington, who was the teacher that the article focused on, introduced blogging first to the youngest grades to teach Internet safety issues, but in the upper elementary grades, she had them write their own blog posts. Students wrote on topics that dealt with their own lives such as their favorite foods. Students would then concentrate on providing detailed comments on each other’s blogs, which helped them practice

important skills such as learning how to evaluate text and pose questions to their peers. The students engaged in reading and writing peer blogs, but it was fun, since they had opportunities to socialize with peers and share aspects of their own lives.

**Connecting to an audience.** To build upon the importance of sharing, blogs provide unique opportunities to write for a wider audience when compared to traditional instruction. For example, survey data from a Pew Internet & American Life Project report titled “Writing, Technology and Teens” (Lenhart et al., 2008), has shown that several factors may increase engagement and motivation for teen writers and bloggers. Student survey responses collected by the report have shown that engagement and motivation increases when teens write for an audience and communicate with their peers. For example, in a survey response to completing writing assignments in an academic setting, one high school student recorded in the Pew report stated:

Well, if I knew that other people were going to read what I wrote and react to what I was writing then I would make it better and I would want to do the best that I could at it. (p. 64)

Conveyed within this quote, is the notion that students are more motivated to write when they have an audience who reads and responds to their writing. This reflects observations made by teachers who have successfully incorporated blogging into their classroom (Lacina & Griffin, 2012). Opinions from students, such as the above quote from the Pew report, has shown that students are generally more engaged writers when an audience exists to read what they write and provide feedback. It seems as though the social interaction facilitated through blogging has the potential to increase motivation and create a sense of community. Blogging in the classroom has shown to be most effective when it can create audiences for student writing to provide more

engaging educational experiences.

Results from the Pew Internet & American Life Project (2008) have shown that students are far more willing to write when they have readers who respond and interact with them. Furthermore, studies have shown that teachers who incorporate blogging can effectively create these audiences that engage students (Lapp, Shea, & Wolsey, 2011; Lenhart et al., 2008; McGrail & Davis, 2011). For example, the qualitative study conducted by McGrail and Davis (2011) revealed how blogging increased engagement with fifth-graders and writing instruction to help improve their literacy skills. The study focused on how blogging impacted student writing and learning. In the process, the study found that students readily connected to their audience, which highly motivated them to write. For example, the study recorded student interviews about their blogging experiences, one student named Victoria stated:

One thing I enjoy doing in blogging is commenting! I like commenting to other people because you get a chance to see what others are writing about and tell them why you like their writing! And I also like getting comments because you can learn what you can do better on by other readers! (p. 431)

The study showed students developed ownership over their writing. They cared more about what they wrote because they created a social connection with their readers. The study provided evidence that blogging can increase student engagement in instructional activities such as writing when there is a meaningful connection between the blogger and their readers. Despite only focusing on the elementary grades, the study does provide data to support that blogs can empower students to more readily engage in reading and writing when an audience has been effectively established to create social interaction with their readers. The study revealed that learning has an important social component, and students were more likely to actively engage

instruction when it was integrated into the classroom activities.

Additional research has shown that blogging can provide a social component to engage and motivate students. In order to make blogging a social activity there must be interaction between the writer and the audience. One such study conducted by Lapp, Shea, and Wosley (2011) provided further insight into the interaction between the writer and audience that can help cultivate a social connection. The case study used qualitative research methods to gather data about the blogging experiences of second graders and how it impacted their learning. The findings from the study demonstrated the positive impact blogging and peer comments had on student motivation and feelings toward literacy skills such as reading and writing. One specific example of how commenting impacted student learning was when the study's authors recounted how one hesitant student responded to comments written on his blog post. Initially, he didn't want to read or hear his comments, but as he listened to his peers read them aloud he started to change his viewpoint. Some of the student comments read as follows: "I liked your details about where this took place," "It was very funny and you may want to improve your spelling," "I really liked your writing because it was really funny," "I like how you described Jack-Jack. I also have a dog," "What did you parents say about the broken TV?," and "I really liked your story because it was funny. You may want to check your spelling and capitalization." (p. 41). After listening to the comments on his blog, the researchers describe the student as visibly changing his body language from trepidation to confidence as he embraced both the praise and critiques from his peers (Lapp et al., 2011). The study provided insights into how blogging can create a social bond between the writer and the audience. Blogging engaged students in the learning activities and caused them to actually care about what they wrote, because they were cognizant of what their audience would think and feel. Based on the study's results, the writer of this

literature review argues that blogging itself wasn't necessarily what made the learning activities engaging, but instead it was the social component facilitated through the blogs that truly motivated the students to take part in a meaningful and instructional experience.

Beyond the elementary grades, educators have integrated blogging to an effort to increase engagement at the middle and high school level as well. For example, Alison Sawmiller (2010), a junior and high school science teacher, wrote a peer-reviewed article that described some of the best practices involving student blogging in the classroom. Sawmiller asserted that writing, and in particular blogging, should be shared, and goes on to state that traditional instruction has assumed that getting good grades was a motivating force for students. For some, good grades have always been a motivation, but for many students writing becomes less important when it is only the teacher reading and evaluating it. Ultimately, students want to be listened to and engaged and blogging can provide that opportunity. For example, Sawmiller cited one high school science student who said, "I find it very enjoyable to blog and I can relate to topics easier than I would sitting in a classroom and being lectured to" (p. 46). The student in question indicated that blogging was enjoyable, which defies the traditional teacher-centered model that strictly relies on relaying knowledge and information from the instructor to the pupil. Blogging has shown that it can create a quality, engaging learning environment where students occupy the center of the learning activity, and they become more motivated to write because they have an opportunity to share their writing with the world. Sharing what one writes with the world becomes a far more enjoyable, engaging, and meaningful undertaking than simply turning in an assignment to be graded by a teacher. Using the insights provided in the study, one can envision how blogging can serve as a tool to free both students and educators from traditional teacher-centered instruction to better engage students in skills that will help them succeed.

For educators, teaching today's students important new literacy skills through blogging cannot be overstated in an increasingly competitive, global society that requires participants to be both creators and communicators of information. New literacy skills include a wide range of abilities such as being able to effectively search for and locate online sources, create and communicate information in a variety of forms and media, and evaluate data to determine its reliability (Leu, Kinzer, Coiro, & Cammack, 2004). However, in order for students to enhance their new literacy skills, which have become important to succeed in today's Information Age, they must be engaged with the curriculum. These skills have been identified as important abilities for Millennials to master in order to navigate a rapidly changing world that has become increasingly dependent on technology. For many educators, based on the research previously stated in the review, blogging has been identified as a useful curricular tool to facilitate this engagement between K-12 students and the skills they need to prosper in the 21st century.

### **Student Self-Expression**

Beyond achieving greater engagement, educators have begun to use blogging to increase opportunities for student self-expression. These increased opportunities have been focused on enhancing traditional literacies such as reading and writing, but also new literacy skills that rapidly evolve with changing culture and technology (Leu et al, 2011). These traditional and new literacy skills, which have been previously mentioned in the review, have evolved to emphasize a multitude of abilities that focus on the capability to analyze and clearly communicate information. These new literacies have become increasingly significant to achieving success in the digital world. Since literacy continues to diversify and change due to increasing technology and evolving online cultural practices, educators must provide students with ample opportunities to practice traditional and new literacies. Educators have begun to use

blogs to facilitate and increase opportunities to practice these literacy skills through online student self-expression.

**Promoting student self-expression.** Millennials have increasingly trended toward social media and blogging as a means of communication. This trend toward social media as a form of casual blogging and online communication is supported by data that has revealed that 40% of adolescents visit some type of social networking site on a daily basis (Miller & Olthouse, 2013). Furthermore, while visiting these social networking sites, it is estimated that adolescents invest on average up to an hour of their time and attention. With these facts in mind, blogging has developed as a tool for K-12 educators to facilitate and encourage student self-expression.

For example, Janie Cowan (2008) wrote an article that documented how the blog she created for her middle school library impacted students' thoughts and opinions on reading and writing. The data was based on Cowan's own observations as the middle school librarian, and she found that several trends emerged after initiating the library's blog. After the blog was implemented, the fiction books being circulated increased dramatically by about one hundred titles per day. Cowan largely attributed this to the students who participated in the online blog. The blog allowed students to express their thoughts and opinions on what they preferred to read, which created a social community that allowed students to not only use the library, but also participate in its success and operation. Despite data based solely on her own observation, Cowan provides evidence that blogging can create an environment where students are free to express their thoughts and opinion, which only increased the interest and circulation of the library. Blogs can create the opportunities today's students need to engage in self-expression to increase their interests in reading and writing to improve literacy. The results from the library blog initiated by Cowan have shown that many students have a lot to say when they are given the

opportunity to express themselves.

To help provide additional avenues for student self-expression, opportunities to establish global and cross-cultural experiences have become an exciting possibility. For example, Hsiao-chien Lee and Carol Giles (2012) studied the effects that a cross-cultural blogging program had on an American fifth-grade class and a group of tenth-grade Taiwanese students. The researchers collected data from student responses and interviews over a two-year period. Within the program, students were encouraged to express their thoughts and opinions without worrying about the academic relevance and grammatical conventions. Both the American and Taiwanese students would read the same content and share their responses to the readings online. The quote below was taken from a student's blog and was in response to one of the readings, and serves as an excellent example of the expressive and thoughtful writing elicited from the activity.

I can't imagine how I would have felt if I was forced to leave my friends, family and home. And to be punished for trying to simply be myself would be worse than torture. I speak Spanish at home and it is almost like breathing to me and to be forced to stop would be terrible. (p. 172)

The depth and thought included in the student's blog post demonstrates blogging's potential to help facilitate student self-expression. The above excerpt from a student response has shown that the data collected by Lee and Giles supports the notion that blogging can create opportunities for self-expression when students engage with each other online. Furthermore, the quality level associated with self-expression heavily depended on the relevance of the blog's subject matter to the students' lives. Blogging's benefits in the classroom provided students with the opportunity to interact with an audience and choose topics to write about that in turn helped facilitate self-expression and increase motivation to read and write.

A similar finding from three case studies found that blogging has shown the ability to connect classrooms from different schools and promote self-expression on topics that interest students. These three case studies were profiled by Jennifer Klein (2010), who directs the educational development for the Research Journalism Initiative (RJI) and the World Leadership School (WLS), and revealed that blogging was one way classrooms were able to interact around the world to provide students with opportunities to express themselves and explore cultural universals and differences. Klein details three case studies that involve students in both the United States and Palestine. The blogging partnerships between the schools used a variety of online communication such as discussion boards and blogging. The partnerships were facilitated and supported by Taking IT global (TIGed), which has become one of the world's largest global, educational networks. In one case study, students shared photographs they took and developed poetry based on the imagery. One American student named Anne wrote a poem called Refuge in response to pictures share by a student from Palestine. Below is just one verse from the poem Anne wrote.

In a world of second-guessing  
 uncertainty  
 your eyes, darkened by shadows, peer out  
 at a barely-recognized homeland”  
 is it really a home?  
 trust is torn apart by claws of hatred and  
 thrown among the despairing--  
 there is no welcome mat here (p. 87)

Anne's poem was a perfect example of how the partnership between these two schools brought

together students and created learning and understanding that would otherwise have been impossible. Blogging was just one of the e-technologies that helped to facilitate the communication between the students in the United States and Palestine. As the educational partnerships described by Klein has shown, blogging has a special capability unique to help teachers integrate engaging literacy activities and promote student self-expression.

The opportunities to interact with others through blogging has a tendency to motivate students to write and develop new literacy skills associated with creating and communicating information online. For example, Davis and McGrail (2009) coordinated and observed the effects of a blogging program that was implemented into the curriculum of a fifth grade class in southeastern Georgia. The study found that blogging encouraged students to communicate online through reading and writing. In many ways the success of the blogging program hinged on allowing students to choose issues to write about that were relevant and important to their lives. For many of the fifth graders in the blogging program, these were issues involving their school since that's the environment that their world exists within outside of their own home. A fifth grader named Anni wrote the excerpt below.

I strongly believe that we need a water fountain at my school's playground ...First reason we need a water fountain is because when we get thirsty we don't have to run upstairs. The water fountain will be closer to use... The second reason we need a water fountain is because it is healthy to drink water after you run or exercise. (p. 74)

Anni's blog post showed thoughtfulness and insight on an issue that was important to her and likely many other fifth graders, which encouraged her to write more effectively than if it was something that was only related to the curriculum and assigned by the teacher. Furthermore, the

blogging program elicited additional student reflection and expression since the it had developed partnerships with others schools and universities to comment on student blogs. For example, Anni's blog post received numerous comments that motivated her to develop thoughtful responses that extended her thinking and inspired others to consider issues such as student access to water throughout the school day and how that can impact their ability to learn. Ultimately, blogging increased the opportunity for students to direct their own learning and express what was important to their lives.

**Bridging student self-expression inside and outside school.** Technology has continued to change, which in turn has prompted today's students to grow and adapt with it. The measurements of formal communication and expression that exist in today's curriculum have not equally adapted to changing technology. Students use different language to express themselves and communicate today than earlier generations that never grew up with computers, the Internet, and mobile technology. Often students have an academic experience that has a very limited, traditional understanding of literacy that may only have been focused on reading and writing academic texts, whereas life outside the classroom revolved around diverse experiences involving online content creation and communication such as blogs, social media, texting, discussion forums, and photo and video sharing (Williams, 2005). Students typically do not view their creative, communicative activities outside school as related to any skillset to be developed in a classroom. For example, Bronwyn Williams interviewed a high school student who said the following about participating in email lists devoted to discussing online gaming, "You know, I can't get into writing. There are just too many rules for how you have to do it, and it's always boring" (p. 704). The student failed to realize the connection between the writing he most readily engaged in outside of school with what he did inside the classroom at school. This

student learned how to write and communicate with others, but did so outside of any traditional school curriculum. Students have found many opportunities for self-expression and to develop literacy skills outside school. Educators can incorporate online literacy activities to help bridge the gap between student self-expression and literacy inside and outside of school. Blogging can become one of many strategies that could help ease both educators and students into developing strategies to promote online self-expression to enhance traditional and new literacies inside the classroom.

Additional cases have been studied that continues to support the notion that a gap exists between traditional schooling and the lives of students in the digital world. In a study titled “Becoming Literate in the Information Age” (Hawisher, Selfe, Moraski, & Pearson, 2004), researchers conducted several cases studies where they explored how people adapted and developed new literacies and competencies associated with computers, digital technology, and the Internet. The study used qualitative methods to provide a digital biography that examined how these individuals, who were the participants of the cases studies, were able to successfully integrate into the Information Age. One subject of the case study was a 15 year old girl named Britney who grew up in the country. At a young age, she developed an interest in computers and spent hours with her friends learning how to use them for fun, school, and anything that interested her. Before she finished high school, she taught herself to design websites and edit photos online. She used the Internet to communicate with friends and wrote online everyday. All of this activity was done outside school and her teachers were largely unaware of these advanced skillsets that she was developing. In the study, Hawisher et al. quoted her as saying the following about her experiences inside school.

I appreciate [it] when my teachers embrace technology... However, very few

teachers use technology in the classroom. While my algebra teacher has a website that he uses to post homework, the art teacher at school gives PowerPoint presentations, and my health teacher had us take a computerized test to see if we were right or left brained, there is little use of dynamic technology in school, but I'm certain this will change as the years progress. (p. 660)

Britney correctly identified the gap between students growing up in the Information Age and the instruction existing within many schools today. The curriculum she experienced in many ways held her back from fully expressing and maximizing the abilities and skills she had developed outside school. Britney's story has become a cautionary tale to educators. However, technologies such as blogging, as previously discussed, can provide students with the opportunity to engage in many online activities that they do on a daily basis beyond the confines of the classroom. For students like Britney, blogging holds the potential to enrich student's own passions and interests to let them express themselves and fully develop skills important to the Information Age. Blogging can help strengthen student self-expression since it provides a more informal platform for students to increase their comfort level and help bridge the gap between experiences inside and outside of school.

In the digital world, student language and self-expression has evolved and manifested itself in different forms than the school environment. For example, Miller and Olthouse (2013) conducted a study that analyzed peer feedback associated with blogging during a summer program for talented and gifted writers. The study incorporated both quantitative and qualitative research methods and focused on a small group of ten students. The students exhibited increased critical thinking when the blogging and commenting allowed for more informal language and expression. The following examples were from students using informal language and self-

expression within the blogs and especially the commenting: “dude,” “rock on,” “He shall be DOOMED!!!!” “guilty!!!!!!!!!!!!!!!,” and “Whyyyyyyyyy?????????????” (p. 77). Students were more likely to willingly engage and interact when blogging and commenting allowed the use of this social language native to Millennials. Blogging served as a tool to facilitate student self-expression, but the effectiveness of the learning activities largely depended on sound instructional strategies. Ultimately, evidence has shown that blogging can effectively host opportunities for self-expression, but on its own it fails to motivate. Blogging must be effectively paired with thoughtful instruction to enhance the learning experiences between students and teachers.

For educators to really engage students and elicit self-expression, it has become important to recognize and bridge the differences between student’s lives outside school and the experience they have inside the classroom. In a study focusing on adolescent online writing, Black (2007), found that students readily and competently contribute through reading and writing to online communities devoted to topics related to popular culture. Black gathered data for the ethnographic study from FanFiction.net, which is an online forum that allows people to blog and discuss create fan-directed stories based around popular culture related to books, video games, television, and movies. Middle and high school aged adolescents actively, creatively, and effectively contributed to popular culture using their own both traditional and new literacies . In contrast, traditional schools have too often involved students in passive, inactive learning activities that either ignore or limit student contribution and expression. Educators can enhance and support instruction through online tools such as blogging to link the expression students use outside school to learning within the classroom.

As today’s students have grown up and spent more of their lives online in digital worlds,

the methods they have used to communicate and express themselves have changed. In the book titled *Youth Online: Identity and Literacy in the Digital Age*, Thomas (2007) investigates issues and trends related to adolescent blogging and other forms of online communication. Thomas explores how adolescents' online behavior has become very important in constructing their identities. The book incorporates in-depth qualitative research on youth online behavior and how teens use blogs, YouTube, Flickr, and many other digital technologies to contribute content, communicate, and interact digitally with others. The research revealed that students largely prefer to interact and communicate with others online in ways that use many different technologies, and that the interaction heavily influences self-expression and identity, since so many important social experiences occur in these digital spaces. For many children, this online self-expression has become very powerful and motivating since their digital experiences often influence the overall quality of their actual lives. As previously discussed, today's schools have failed in many ways to create similar experiences for students where they have opportunities to actively create, communicate, collaborate, and express themselves. Online, digital social interaction such as blogging has increasingly become the norm for how today's youth express themselves outside of school. For educators, embracing this technology can become a tool to promote student self-expression and help bridge the divide between youth experiences inside and outside school.

### **Higher-Order Thinking**

In addition to promoting engagement and self-expression, K-12 educators have developed strategies to use blogging to encourage higher-order thinking. Blogging has become a gateway to the online, digital world it is estimated that 93% of twelve to seventeen year olds go to communicate and socialize with peers (Alvermann, 2008). Furthermore, in a survey

conducted by the PEW Internet & American Life Project, recent data has shown that 64% of adolescents between twelve and seventeen years of age create and publish online content involving discussion forums, blogs, social media, YouTube, and many other forms of digital media (Alvermann, 2008). Educators have started to develop strategies to use blogging as a tool to provide a framework to help encourage critical and higher-order thinking (Zawilinski, 2009) that involves the upper level of Bloom's Taxonomy such as the mental processes that involve analyzing, evaluating, synthesizing and creating (Krathwohl, 2002). As the world revolves around the creation and communication of information, the need to teach students how to think critically to better analyze, evaluate, and create has become increasingly important.

**Creating opportunity for higher-order thinking.** Blogs have been found to help educators create activities to enable processes associated with higher-order thinking. For instance, Sawmiller (2010), whose article was cited previously during the discussion on engagement, explore how blogs used in high school science curriculums can support learning activities intended to generate critical thinking. Sawmiller described how students would write and post to their blogs as part of an inquiry-based science curriculum. Blogging created opportunities for students to read, analyze, and evaluate information for its usefulness and then organize and create a blog post. The blogs became important to the critical thinking process students conducted to more deeply understand the curriculum in greater complexity. Educators have found methods to coach higher-order thinking to students using blogging as the online venue for these important learning activities.

Other studies have been done that explore how blogging impacts higher ordering thinking. One such study took place overseas in Greece and was led by Athanassios Jimohyiannis and Sophia Angelaina (2012), who are education researchers from the University

of Peloponnese, Korinthos, Greece. The peer-reviewed quantitative study focused on twenty-one Greek students from two K-9 classes. The blogging program was nine weeks in length and the content knowledge of the blog concentrated on science education. The researchers used a framework of analyzing the student blogging that focused on three different components. One component categorized blog posts that contributed a “social presence”, which may have helped encourage more social, amendable communication between participants. The second category identified blog posts that exhibited a “cognitive presence” that showed students building and sharing understanding through knowledge application, analysis, synthesis, and evaluation of the content. The third category focused on “teaching presence”, which identified blog posts that the teacher leading the blogging would publish to guide instruction. Upon completing the blogging program, the researchers found that 95 of the 131 blog posts fell into the “cognitive presence” analysis category. This represented the vast majority of student blog posts and provided evidence that the blog enhanced opportunities for higher-order thinking related to exploring, analyzing, and synthesizing information related to the instructional content. The study conducted by Jmohyiannis and Angelaina provided quantitative evidence that blogging provided a venue and opportunity for an instructional framework that helped to enhance and encourage critical thinking at the higher levels of Bloom’s Taxonomy such as analysis, synthesis, evaluation, and creation.

Educators have always explored how to more readily engage students in higher levels of Bloom’s Taxonomy, and blogs provide possibilities to increase those opportunities for critical thinking. Cabiness, Donovan, and Green (2013) explored the opportunities for critical thinking through Wikis, which are websites similar to blogs that allow one or more individuals to contribute and publish content. The participants were 200 7<sup>th</sup> graders who took Medieval World

History in a diverse middle school in Southern California. The wikis were implemented to promote skills associated with historical analysis such as interpreting history to build an overall understanding of why events have occurred instead of only focusing on what happened and when. Students posted questions about the content that they wanted to learn more about and then they would go about locating and sharing information to help develop answers. Within this process, students would write posts similar to a blog and comment and respond to what others had contributed. Researchers tracked and categorized student posts to the Wiki to determine how they applied to different levels of Bloom's Taxonomy. The results of the study showed a very high frequency of responses existed in the upper levels of Bloom's Taxonomy and in particular analysis and evaluation. The excerpt below best summarizes the findings of the study.

The fact that student responses represented high frequency of analysis (initial questions), and analytical and evaluation contributions (during collaboration and in response to peers), confirms for us that pedagogy that occurs when teachers integrate wikis into the classroom environment is conducive to promoting higher-order thinking. (p. 44)

It is important to note that the researchers indicated that it was the pedagogy that promoted the higher-order thinking and not the wiki itself. However, the blogging involved in Wikis that allowed students to post information in multiple forms and collaborate was an important and necessary tool to help facilitate critical thinking. Without the blogging, it may have been far more difficult for the learning activities at the center of the study to achieve higher-order thinking at the same level of frequency.

Integrating blogs into curriculum has potential to help every K-12 curricular area to better teach critical thinking such as analysis, synthesis, evaluation, and creation that are associated

with higher-order thinking. In a book recently published by ISTE (International Society for Technology in Education) titled *Making Connections with Blogging: Authentic Learning for Today's Classrooms*, blogs were evaluated to determine how instructors could implement them as a tool to engage students and enhance pedagogy (Parisi & Crosby, 2012). Despite lacking original research, the best practices outlined in the book provide insight into how educators have developed instructional strategies focused on blogging to engage students and encourage them to think critically. The instructional strategies explored in the book reinforce that blogging can be used to enhance student learning through writing and replying to comments to support a point of view, or even creating and linking to multimedia projects in their blogs as a way to demonstrate what they've learned. These insights further reveal how blogging can provide an online, collaborative space that educators can use to develop instructional pedagogies and frameworks that increase students' opportunities to engage in higher-order thinking.

**Higher-order thinking through reflection and discussion.** Blogging can provide opportunities for educators to encourage students to reflect on and discuss learning in order to increase higher-order thinking throughout K-12 education. For example, Frye, Trathen, & Koppenhaver (2010) studied and outlined techniques best suited to integrate blogs and help elicit critical thinking skills such as analysis, synthesis, evaluation, and creation. The authors profile Internet workshops intended to lead upper elementary students through online research, which would culminate in a blog post that would be shared either privately with the class or publicly with the entire world. Serving as an online journal, the blogs would allow student to reflect on they have learned through the Internet workshop and allow opportunity to discuss findings with peers. The online reflection and discussion becomes both socially engaging and the dialogue can inspire student to extend their exploration and understanding that in turn leads to thinking

critically about new ideas and information. The authors described a vivid learning activity that illustrated how effective use of blogging can increase higher-order thinking since blogs provide the capability to reflect, revise, and discuss student learning and build further understanding.

When teachers and students have engaged in blogging and share their experiences, it becomes increasingly clear how it can impact learning and add depth to understanding. For example, Boling, Castek, Zawilinski, Barton, & Nierlich (2008) conducted a study about how blogs impact student learning through facilitating information sharing and collaboration. The study profiled several case studies that involved mostly third, fourth and fifth grade students and was thematically focused on social studies. One blogging project used wikis, which have been previously discussed along with their similarity to blogs, to share student research on national parks and create new pages for the different parks based on the information that they gathered. Therefore, students had to gather, analyze, evaluate, and share information they gathered online and then create a separate section within the wiki for each park. After the project, students shared the following reflection about the process.

The wikis took a lot of patience and we needed to make a LOT of revisions.

We sometimes argued about what to put on our site but overall, it was pretty fun. We spent a lot of time sharing ideas on our wikis instead of doing regular work. (p. 506)

As described by the quote above, students spent significant time sharing, discussing, reflecting, revising, and creating. The learning activity, which inspired higher levels of thought such as analysis, synthesis, evaluation, and creation, caused students to think at the upper levels of Bloom's Taxonomy. This outcome was largely due to the educator's effective instructional design, but it was also because of wikis and blogs and utilizing these tools to facilitate online,

information-rich, collaborative learning.

Additional research has been done to further support the notion that blogging encourages students to think with greater depth by building on and sharing each others experiences and understanding. For instance, Lee and Giles (2012) conducted a qualitative study that involved a cross-cultural blogging program between an American fifth-grade class and tenth-grade Taiwanese students. Along with providing opportunities for student self-expression, the interaction between those participating in the blogging program stimulated online exchanges that led students to reflect and think critically about their own lives and others. One such example involved students commenting on each other's blogging about a book that they read that dealt with issues such as immigration and cultural differences. The example below was actually in response to another student's blog post from the reading.

... it is a very good introduction to the religious life of an immigrant at an American school were [where] we are all very public about our celebrations of Christmas and other holidays such as Easter, Hanukah and Fourth of July. ...It must be hard for other people like Jewish and Muslims because in America we are mainly a Christian dominated country and it is really hard to fit in be cool and other things like that. (p. 171)

The exchange between these students helped to build their understanding and develop new learning. Blogging allowed for that reflection to take place along with the interaction between students in the study. The power of the blogging was that students could share their reflections that in turn spurred others to reflect form new understandings by evaluating and synthesizing new ideas and information. Blogging not only engaged and provided an opportunity for expression, but also inspired higher-order thinking through student reflection and discussion.

## Conclusions and Recommendations

As education slowly adapts to 21st century students, there is a significant gap when it comes to engaging and motivating K-12 students to express themselves and think critically in today's classrooms. Students, from elementary to secondary, are increasingly using devices to engage in a digital world that does not reflect the typical educational experience within brick and mortar schools (Pearson, 2013). Research based on student surveys reveal that they want their academics to more authentically reflect the technology rich world they exist in on a daily basis (Lenhart et al., 2008). For many educators, this is an educational alarm and call to action to engage this digital generation of students in authentic, meaningful, and online learning activities that promote self-expression and facilitate higher-order thinking. As this review indicates, enterprising educators are increasingly integrating blogging in an attempt to stem the tide and close this gap between student experiences inside and outside school.

As to how blogging specifically affects engagement, the review presents significant evidence that incorporating blogs into the classroom positively impacts student learning. Regarding student engagement, integrating blogs can make reading and writing fun for students when they are able to read and write on topics that are meaningful and relevant to their lives (Lacina & Griffin, 2012; Witte, 2007). Furthermore, blogs give students an audience to interact and communicate with, which in turn increases engagement as students take more ownership of their writing and any other content they publish online (Davis & McGrail, 2009; Lacina & Griffin, 2012; Lapp et al., 2011; Lenhart et al., 2008; McGrail & Davis, 2011; Sawmiller, 2010). In the simplest terms, when successfully integrated into instruction, blogs make reading and writing social, engaging, and fun. The skills students develop while blogging provides students opportunities to enhance important 21st century new literacy skills associated with creating and

communicating information online (Leu et al., 2004). As with any educational tool, its role is to augment and supplement sound instructional design, and considerable evidence exists that reveals a meaningful and positive connection between blogging and increased student engagement.

As to how blogging specifically affects self-expression, research reveals considerable evidence that incorporating blogs into the classroom can facilitate and increase opportunities for students to express and share their thoughts and opinions in an educational setting. For example, as indicated in the review, blogs can help promote an online community where students are free to share their thoughts and ideas with others that may increase interest in literacy skills such as reading and writing (Cowan, 2008; Davis & McGrail, 2009; Klein, 2010; Lee & Giles, 2012). Educational blogs can help create online audiences that increase student motivation to express themselves through writing (Cowan, 2008; Davis & McGrail, 2009; Klein, 2010; Lee & Giles, 2012). Furthermore, blogs can create opportunities to engage in learning activities that allow students to share their thoughts, ideas, and unique experiences with their peers that bridge experiences inside and outside school (Black, 2007; Hawisher et al., 2004; Miller & Olthouse, 2013; Thomas, 2007; Williams, 2005). When blogs are effectively implemented in instruction, as described in the above research, considerable evidence exists that suggests blogs help to facilitate and increase opportunities for students to engage in traditional literacy activities such as reading and writing and new literacies associated with the online communication and creation of digital information. These learning activities help to promote and involve students in opportunities for self-expression. Students want to express themselves online and participate in exciting learning activities, and schools should embrace technologies such as blogging rather than reacting with fear and apprehension.

Furthermore, research shows that blogs not only increase student engagement and opportunities for self-expression, but also facilitate higher-order thinking. Blogging enables the opportunity for educators to provide opportunities to inspire and engage students in critical thinking at the upper levels of Bloom's taxonomy such as analysis, synthesis, evaluation, and creation (Cabiness et al., 2013; Jimohyiannis & Angelaina, 2012; Parisi & Crosby, 2012; Sawmiller, 2010). In many ways, these opportunities for higher-order thinking exist because blogs connect students and enable them to build upon each others insights and understanding through sharing comments and inspiring discourse between peers (Cabiness et al., 2013; Parisi & Crosby, 2012). Furthermore, blogs provide the ability for students to reflect, revise, and discuss learning that often require critical thinking skills to help construct additional meaning and understanding within and beyond the confines of the classroom (Boling et al., 2008; Frye et al., 2010; Lee & Giles, 2012). The capability to think critically, collaborate, and co-construct understanding to adapt and solve problems is increasingly important in today's Information Age. Students develop many of these skills outside the classroom as they immerse themselves in the digital, online world of their generation (Rebora, 2013). It is time that K-12 education incorporate blogging and other online tools to adapt instruction to aid students in developing these higher-order thinking skills that can help them succeed in the today's technology-rich, rapidly changing world.

Integrating blogs into the K-12 curriculum creates a variety of implications for classroom teachers, administrators, and technology coordinators. Teachers should realize that effective integration of blogs can provide many opportunities to increase student engagement, promote self-expression, and facilitate higher-order thinking. Specifically teachers should invest planning and class time to make blogging a regular part of their instruction. Furthermore, teachers should

provide time to cultivate initial engagement by building an audience for student blogs, which in turn will likely generate intrinsic motivation. If teachers want to engage students in their quality world then they need to adapt their pedagogy to exist in the digital one.

For administrators and technology coordinators, professional development throughout the year should include pedagogical strategies to inform teachers how to successfully integrate blogging into the classroom. One cannot expect teachers to simply adapt on their own without professional support and guidance beyond a simple workshop once a year. Furthermore, as students invest increasingly more time in the digital world, they need to be taught how to appropriately interact with others in that environment. Millennials especially tend to reveal more personal information online, which may subject them to older cyberstalkers that portray themselves as their peers (Huffaker & Calvert, 2005). Implementing blogs provide K-12 educators a meaningful venue and opportunity to explore issues relating to digital citizenship that can help instruct students how to conduct and protect themselves online.

However, despite the research discussed throughout this review, more studies should be done to further explore the impact blogging has on student engagement, self-expression, and higher-order thinking. When conducting the review, peer-reviewed case studies and qualitative research did exist, but there were very few quantitative studies that specifically dealt with blogging and how it affects student learning. As to the reasoning for this absent data, blogging is a somewhat recent trend within K-12 education, which is the likely indicator as to why there is minimal quantitative research. Furthermore, blogging can be difficult to develop frameworks to extract quantitative data since it involves so much writing, which in itself is more difficult to quantify. To fill this data void, researchers and K-12 educators should undertake data driven longitudinal quantitative research to further unlock and illuminate how blogging impacts

learning through student engagement, self-expression, and higher-order thinking. This literature review is important to administrators and educators who seek to implement blogging as a path to engage today's students in meaningful instruction that motivates and inspires them. For it is every educator's duty to engage and turn on the minds of students in order to unlock their potential and equip them with the necessary skills to understand and succeed in today's society.

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