Toward Social Media Based Writing

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Abstract. Although text-based digital communication (e.g. email, text messaging) is the new norm, American teens continue to fall short of writing standards, claiming school writing is too challenging and that they have nothing interesting to share. However, teens constantly and enthusiastically immerse themselves in social media, through which they regularly document their life stories and voluntarily share them with peers who deliver feedback (comments, "likes," etc.) which has been demonstrated to impact self-esteem. While such activities are, in fact, writing, research indicates that teens instead view them as simply "communication" or "being social." Accordingly, through a review of relevant literature, interviews with teachers, and focus groups with students, this research offers recommendations for designing technology that infuses school writing with the aspects of social media that teens find so engaging—including multi-platform access to personal informatics, guided prewriting tools, and structured peer feedback—with the ultimate goal of improving student writing.

Keywords: storytelling, usability methods and tools, social media, writing, education, educational technology, instruction, design.

1   Introduction and Background

Human beings crave stories, and in this digital age where viral videos can exceed 100 million views in under a week, crowdsourcing can fund a music album in under an hour, and self-published authors can sell several hundred thousand books in under a month, well-told stories—whether factual and fictional—can profoundly impact the world. Furthermore, as digital connectivity becomes increasingly pervasive and text-based digital communication is the norm in both professional and personal settings, writing effectively is arguably a more important skill than ever.

Yet, American students—adolescents in particular—continue to fall short of national writing standards [1], a deficiency further exacerbated by a national emphasis on reading and STEM education [2], leaving little room for the instructional time required for developing the complex cognitive processes associated with writing [3]. Self-beliefs profoundly impact one's actions [4], and because adolescents tend to believe their academic abilities are fixed rather than malleable [5, 6], those who struggle with writing often find themselves in a difficult cycle to break, as low writing confidence produces low-quality work, further reinforcing low confidence in future writing, and so on.

The Writer's Workshop, a vastly popular writing instruction model, has shown some promise in motivating writing improvement. Its intent is to engage students by letting them choose writing topics they care about—their lives, interests, family, friends, etc.—thus intrinsically motivating them to craft stories thoughtfully and carefully [7]. These stories are then shared with peers who offer positive feedback, reinforcing the authors' efforts and ultimately improving skills and confidence in all writing genres [8, 9]. Teens themselves support this methodology, as "*they are motivated to write when they can select topics that are relevant to their lives and interests, and report greater enjoyment of school writing when they have the opportunity to write creatively…Teens also report writing for an audience motivates them to write and write well*" [10].

Unfortunately, this approach's caveat is its dependence on student self-perception. While effective with confident students, it is difficult to put into practice with struggling writers, who believe they lack the natural abilities required to write effectively [5, 6, 11] and that they have nothing interesting to say about themselves, and thus fear embarrassment in sharing writing with peers [12]. However, without realizing it, teens do have these abilities. They regularly document their lives and thoughts via social media, smartphones, and digital media [10, 13]—essentially "authoring" stories every day—and voluntarily share these stories with a "real" peer audience who deliver feedback via comments, "likes," etc. [14–16]. Teens welcome this feedback, as social acceptance is deeply important to them, and unsurprisingly, research demonstrates that feedback received via social media impacts the self-esteem of adolescents and young adults [17–19]. Interestingly, research also indicates that although such digital activities are, in fact, writing, teens do not see them as such, instead viewing them as simply "communication" or "being social" [10].

Thus, since adolescents are already immersed in practices found to improve writing outside of the classroom through social media (which, in turn, boosts self-esteem), it stands to reason that incorporating social media into the classroom will illuminate students' natural abilities as storytellers, positively affect their writing self-confidence, and ultimately motivate them to improve their writing. Accordingly, through a review of relevant literature and probative interviews and focus groups with English teachers and high school students, this research investigates opportunities for integrating social media into a writing curriculum and, based on these findings, offers recommendations for designing technology to support social media based writing.

2   Research Questions and Purpose

Because in-class writing instruction time is limited and the act of writing itself is time-intensive, a logical remedy is computer-mediated solutions supporting students both in and out of the classroom (even without a teacher present). Consequently, researchers have explored numerous computational writing intervention applications, a vast majority of which use natural language processing to support revising [20]. However, although prewriting exercises positively impact writing quality [21], few computational interventions approach writing from the content perspective [20]—i.e.

supporting personally relevant idea generation. This is largely because it is easier to have computers analyze language patterns than to mimic creative human thought. Yet, lifelogs and social media data have proven effective in seeding narratives [22, 23], and as teens regularly create digital content about themselves via social media, using these digital extensions of themselves as a browsable dataset for brainstorming would inject that missing human element into a computational framework. With this in mind, one aim of this research is to investigate such possibilities:

RQ1: In what ways might students' social media data be used for generating personally relevant writing ideas and planning a first draft?

Additionally, critiquing exemplars and work by peers is a powerful educational practice fostering self-regulation within the writing process [21, 24], allowing students to learn about form, process, and good/bad practices. In response to Web 2.0's popularity, much educational research has explored the effects of computer-mediated interaction, employing participatory web modalities through message boards, blogs, wikis, etc. for peer evaluation [14–16], particularly because students are already familiar with and voluntarily engage in such interactions. Although research implies that online interactions can influence adolescents' self-views [17–19, 25], few computational writing interventions exist that leverage these findings [20], and little to no literature formally evaluates this digital peer feedback's impact on writing quality and motivation. Hence, a second intent of this research is to explore such opportunities:

RQ2: What aspects of social media and modern digital literacy would be desirable in a peer feedback system for sharing student writing?

With the intent of compiling a set of design guidelines for social media based writing technology, these questions guided a series of explorative interviews and focus groups with teachers and students, the technology's intended users.

3   Methodology

This probative study consisted of interviews with 6 middle/high school English teachers and focus groups with 14 high school students. All sessions were audio-recorded, then transcribed, iteratively coded, and conceptualized using Grounded Theory [26].

Teacher interviews were conducted and analyzed before any student focus groups and discussed: 1) the needs, expectations and challenges in teaching writing; 2) best practices for engaging students in writing and eliciting quality work; 3) how each teacher utilizes technology in writing instruction; and 4) opportunities for integrating social media into a writing curriculum. The 6 participants (4 female, 2 male) all work as English teachers in the American Southwest, but vary in age (31-54 years), current teaching assignment (grades 6-12), and years of teaching experience (4-28).

Student focus groups were held in single, two-hour sessions, with discussion topics including: 1) students' experiences and challenges with writing; 2) their technology/social media habits and preferences; and 3) participatory design sessions for applications melding social media and classroom writing. A total of three focus groups

were conducted and included 3-6 students per session. The 14 student participants (4 female, 10 male) ranged from ages 13-18 and from grades 9-12. Students were recruited from two American Southwestern high schools, both of which place particular emphasis on integrating technology into their curricula.

4 Results

General findings provided further justification for a social media based writing approach and are as follows.

4.1 Student Self-Confidence is a Major Challenge in Teaching Writing

Teacher interviews confirmed the overall reluctance adolescents have toward writing, perceiving it as beyond their skill sets [5, 6, 11, 12, 27]. In fact, when asked about their challenges in teaching writing, a majority of teachers cited student self-confidence. One said: *"I think the [greatest challenge is the] preconceived notion that "I can' t write. I'm bad at writing." I think lots of kids come into middle school saying "I am a bad writer," and they don't have confidence in their writing...They come in and they have just made a decision that reading is boring and writing is too hard."* Additionally, when asked to rate their own writing abilities, 10 out of 14 students ranked themselves as *"okay"* or even *"bad"* writers. Interestingly, these self-rated *"okay/bad"* writers included not only students enrolled in regular-level English, but even students in AP/Honors English, suggesting that the issue of writing self-confidence transcends students' actual abilities.

4.2 Personally Relevant Topics Ease Students into Writing

Supported by writing instruction literature discussed above [7–10], to ease students into writing, all interviewed teachers attempt to pique students' interest by asking them to write about topics they find relevant and meaningful. One teacher reported: *"I try to make it personal, so that writing isn't scary and this big overpowering thing."* Another added: *"I encourage students to write about things personally relevant to them 100% of the time, because no matter what, if it's relevant to them and they're revealing a little bit about themselves, it's going to be more interesting."* Unsurprisingly, students also agreed that writing is less intimidating when they are able to choose topics that interest them. One student shared: *"When you're able to choose your topics, it's much easier, I think, for me to write about because I'm interested in it."* Teens appreciate creative choice in writing, allowing them to *"branch out and do something different"* and *"play to their strengths,"* particularly enjoying the *"personal reflection"* and *"epiphanies"* afforded by writing about their experiences.

4.3 Writing for a Real Audience of Peers Increases Student Efforts

Students consistently described sharing writing with an audience beyond just one teacher as *"exciting."* In reflecting on a project where students created a public blog

as a class that received local media attention, one student shared that having a wider audience is *"better than just the teacher…because I [can] produce something that could make a difference and someone could look at it and look at my ideas—someone outside of school, someone I don't even know…that was interesting, that I could do that through technology."* Additionally, students expressed that they *"like"* receiving peer feedback on their writing, describing it as *"helpful"* and *"worth it."* One student in a regular-level English class who feels he is not a strong writer even seeks peer feedback outside of his class, from friends in Honors English: *"I do have a lot of friends in [Honors English] so I'll say, 'Oh, look this over,' and then I'll get multiple opinions…and that's probably why [lately] I've been getting A/B papers."* Although teachers all agreed that peer feedback is beneficial, many felt it *"takes time,"* often more than their schedules allow. However, similar to [14–16], 3 of 6 teachers found success in extending the classroom to the digital realm, having students participate in class activities via blogs. One teacher posted weekly questions on a class blog, offering students extra credit for responding with comments: *"It was actually really effective. Students would look forward to the Sunday question and it sort of framed the week that was coming up…students and parents really liked it. Students connected to content that way a lot better than just [asking them in a class discussion] 'Well, what do you think about this?'"* Teachers also found that eliciting digital responses encouraged students who are usually *"shy"* in class to share thoughtful ideas that would not be voiced otherwise. Similarly, a student added: *"Behind the computer screen it's so much easier to talk to the person"* as there are *"not other people around"* listening.

4.4   Teens Are "Defined by" Social Media

Students and teachers alike confirmed teens' constant engagement in text-based digital communication [10], afforded primarily by smartphones, which students admit to *"always"* and *"constantly"* using and keeping within reach, even late at night: *"Mine's normally on my nightstand or if I just end up falling asleep [using it] it'd be under my pillow."* Adolescents also report their social media activity as a deliberate, carefully-maintained extension of themselves allowing them to shape their *"public"* identities (similar to [28]), often used as a venue for social affirmation. When asked how involved his students are in social media, one teacher laughed: *"I wouldn't say [students are] involved in social media. I'd say they're <u>defined</u> by social media. Looking at when I was in high school and comparing it to now, a lot of the socializing we'd do in person is now done through a mediated thing [Facebook]."* Teens appreciate the ability to share news about their lives with all of their friends at any moment and confessed their excitement when receiving notifications that a friend has "liked" or commented on one of their social media posts. One student described this feeling as *"Yay! Someone appreciates me!"* However, focus groups indicated that such behavior is more typical of younger students, and begins to wane with age. High school seniors joked about how only a year ago their social media mindsets were *"however many likes you got on a status determined how cool you were,"* but that they were now *"cleaning up"* and *"deleting dumb stuff"* on their profiles, as they looked toward

more *"family-oriented"* use as adults, realizing once content is shared, *"it's all public"* and could have consequences on their futures.

5   Design Recommendations

Based on this study's conversations with students and teachers, we now offer the following design recommendations for creating technology to support social media based writing in the classroom.

5.1   Cloud-Based, Multi-platform Web Applications

As confirmed by both teachers and students, teens use multiple devices during the course of a day for school assignments. While many students indicated owning laptops and tablets at home, they rarely bring them to school because their schools provide access to *"computers and netbooks"* which they use *"every day,"* often with cloud storage to manage their files: *"I really don't need to worry about [my files] because I do a lot of stuff on Google Drive now, so I can pull it up anywhere, from any laptop."* Additionally, while teachers value student access to technology, they noted that *"having to install"* and *"set up"* new software can be frustrating and *"by the time you actually get started, you only have about twenty minutes and the class period's over,"* leaving little actual work time in class.

Teachers added that although many schools have *"policies against cell phone use,"* administrators support teachers having students use cell phones *"for instructional purposes."* As a result, teachers have found great success in allowing students to use their phones for class activities such as SMS text polls, which *"give the students and opportunity to use their phones because they WANT to use their phones. It's integrated—it is their lives. Their lives are integrated within their phones."*

With these considerations in mind, a first recommendation for social media based writing application design is a cloud-based framework, accessible on multiple devices (computers, tablets, and cell phones). Additionally, to minimize setup and eliminate the need for software installation, such applications ought to be web-based rather than local, making a web browser and Internet access the only two access requirements and thus affording students and teachers both flexible and ubiquitous use.

5.2   Scaffolded Writing Planning

Teachers agreed that, due to their resistance to writing, students often do not know where to begin with an assignment. Even given the option of choosing their own topic, students often claim they *"don't have anything interesting to write"* and even *"My life is boring."* Consistent with [21, 24], teachers unanimously cited *"scaffolding"* (walking students step-by-step through the entire writing process) as the most effective strategy for addressing this resistance. Of particular interest is how teachers guide students through prewriting, with structured questions and prompts for generating personally relevant ideas: *"I give them various questions based on experiences they've*

had in the past—relationships with family members, holidays, memories that are funny or things where they have a lot of emotion are really good to get them started." Teachers encourage students to generate multiple ideas since their *"first ideas"* are typically less reflective (and thus less workable). Choosing the *"best"* from a large set of possible topics usually yields better results and encourages students that they do have *"interesting"* ideas after all: *"When they can map out all of their ideas in some way, whether through questioning or drawing, it really helps them to see that there's lots of ideas to choose for a story."* Some teachers even have students save their prewriting work as a bank of ideas to facilitate future writing topic choices.

Fittingly, in discussing social media based writing opportunities, students expressed excitement about the possibility of bringing their social media data together, *"all in one place"* as an explorable dataset of writing topic ideas, describing the idea as *"really cool"* and *"interesting"* (further detail in 5.3 below). Furthermore, teachers felt that *"using the social media as a bridge"* to a writing assignment *"would be very non-threatening"* and using this familiar, personal content to seed writing would particularly help struggling writers, as elaborating on the story behind a status update or wall photo would find them *"writing without really realizing that they're writing."*

Once a topic is chosen, teachers typically continue to guide students through *"narrowing [the topic] down"* to a usable story idea: *"you've got this huge monstrosity and you want to pick just a slice…I don't want to hear about your entire day at Disneyland…I want to hear about a moment in time."* Students appreciate when teachers facilitate this with a variety of *"mind maps," "graphic organizers,"* and *"outlines"* in order to flesh out and organize their ideas in preparation for a draft. One student who struggles with writing noted that *"lately my teacher…has been helping me with my outlines and from there, it's just—I've been getting A's and B's on my papers."*

Accordingly, a second suggestion for social media based writing technology is a scaffolded workflow with structured questions guiding students from 1) choosing an initial (social-media-inspired) idea to 2) a more focused, specific topic, and then to 3) a formal, organized plan to aid in writing a first draft.

5.3   Auto-updated Personal Informatics

Both teachers and students felt adolescent writers would benefit from sifting through their digital datasets to aid prewriting. Students in particular indicated interest in the personal informatics that a social media based writing system could afford, saying *"we never see all of our [online] activity all in one place,"* and that they could *"learn about themselves,"* and *"reflect"* on trends in their data through statistics such as *"most used words"* (visualized through word clouds), *"friends who tagged you the most,"* and common places they have "checked in" via location-based applications. As writing assignments often call for different types of topics, teachers and students felt a filtering option would be beneficial, allowing them to query specific dates or date ranges, call up *"only pictures"* or *"only status updates,"* and even *"key words you can type in"* to find data containing a search term of interest. For instance: *"if I wanted to write about Christmas, then I could go back and type in 'Christmas' and then all of the posts that I've ever posted about Christmas would show up."* Students

also felt such an application ought to automatically update with any new social media activity, rather than continually importing data manually to keep it up to date: *"…it should automatically synchronize…just because you don't want to go back and drag [data] from different places. I think if it could automatically synchronize, like, any-time you post something on Facebook or Twitter or whatever, then they would auto-matically go to this one place. So you don't have to worry about it. It's just there."*

Therefore, a third social media based writing recommendation is for the technology to automatically synchronize with social media data, report personal informatics on this data, and provide options for filtering data based on attributes such as time, text content, and geographical location.

5.4 Prompt, Digitally-Mediated Feedback from a Peer Audience Based on Standards and Rubrics

As discussed in section 4.3, all participants felt that: 1) a peer audience increases stu-dent motivation, and 2) peer feedback is *"helpful."* While students value *"quick"* feedback [2], they often feel the quality of in-person peer review is reduced due to the time constraints of a class period. Because they must review several classmates' work in a short period of time, they often find peer reviews *"rushed,"* allowing little time for a reader to reflect. Accordingly, students especially expressed interest in using a digitally-mediated peer feedback system allowing reviewers to *"take their time."* Understanding that sometimes reviewers need to *"read [a writing piece] a few times to actually get what I'm talking about,"* students felt they would both give and receive better feedback with a turnaround time of *"within a few days"* rather than instantly.

Because students need to be trained to give quality feedback on writing [2], teach-ers often give students editing checklists or rubrics to facilitate the process, asking peer reviewers to look at specific aspects of the writing, such as content, organization, and punctuation. Students appreciate this guidance, and in discussing peer feedback technology possibilities, suggested the option for teachers to include *"a template online of how we should edit"* a peer's work. A particularly popular suggestion was to use the widely-adopted 6 Writing Trait rubrics[1], an assessment model asking students (and teachers) to consider and evaluate six particular aspects of writing: *"ideas/content, organization, word choice, sentence fluency, voice, and conventions."* As students have used this model in school for years, they felt it would be a suitable, universal guide for rating peers. Furthermore, students believed it would be beneficial for a peer feedback application to deliver informatics on past scored writing, reporting suggested writing traits with which the student typically struggles: *"If there was a way to—like after someone edited your paper—to rank your paper based on the 6 Traits of Writing, and then you could see over time if the comments based on these 6 Traits have changed…[For example,] if it's constantly [a low score in] word choice, then you know, 'I have to work on word choice.'"* Consequently, a fourth and final suggestion for social media based writing technology design is a system affording prompt, digitally-mediated peer feedback allowing teachers to embed standards

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[1] http://educationnorthwest.org/traits

and/or rubrics for guiding students through a review, enabling them to deliver quality feedback.

6   Conclusion and Future Work

In response to the text-based nature of modern communication, low national adolescent writing proficiency, and shortage of in-class time for personally relevant and social components of writing instruction that are known to engage teens, this research aims to develop technology integrating social media elements into writing instruction.

Interviews with English teachers and focus groups with high school students confirmed this as an exciting approach to engage adolescent writers, and yielded four design recommendations for social media based writing: 1) cloud-based web applications that are accessible on multiple devices; 2) scaffolded, step-by-step tools for prewriting; 3) auto-updated informatics on personal data that are browsable and searchable; and 4) prompt digital feedback from peers based on standards and rubrics. The authors are currently developing applications based on these recommendations which will be piloted in high school classrooms, iteratively refined, and evaluated for both affective and academic implications. Ultimately, the goal of this work is to make available robust applications for students and teachers nationwide that will not only help students improve their writing, but also make the act of writing more enjoyable.

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