

Google Docs in Elementary Gifted Education

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A review of current literature regarding benefits of using Google Docs with elementary gifted students yielded limited results. The authors contend that this is problematic considering the ever-expanding use of Google in education and the fact that Google holds the majority of mobile devices entering public education (Singer, 2017). Although many practitioners tout the usefulness of Google Docs in education (Nithya and Selvi, 2017; Oxnevad, 2013; Yang, 2010), and some promising empirical evidence for its use at the elementary level exists (Abell, 2013; Gierhart & Brown, 2018), the authors argue that there is not yet enough evidence to measure the impact of Google Docs on elementary writing instruction and, more specifically, its effects in meeting the needs of elementary gifted students.

Students in the United States today live in a world where technology is ubiquitous and integrated into every aspect of their lives (Black, 2010). This includes integration into sleep, as a 2019 survey found that 68% of teenagers keep their phones close at hand overnight and almost a third of students sleep with them (Johnson, 2019). The presence of literal 24-hour access to mobile devices has resulted in technology that is convenient and can provide instant access to a wealth of information with little effort. However, the way students utilize technology in schools depends heavily on their teacher's willingness to adapt and to ensure that the students are the ones using the technology rather than the teacher alone (Regan et al., 2019). District personnel are handling the issue in different ways, with some promoting the guided use of personal technology and others banning its use altogether (Klein, 2019). Reilly (2012) pointed out that teachers need to understand their students and "adopt teaching strategies that respond to their academic needs" (p. 10), and, for students in the United States, this is often addressed in the integration of technology into the curriculum.

Writing is a deliberate process that requires students to display effort, patience, and openness to receiving constructive feedback to improve their craft. The National Center for Education Evaluation and Regional Assistance recognized this, noting that the writing process is complex and involved, requiring a multitude of independent skills, including a deep understanding of purpose and audience and skills to plan and execute a final product (NCEE, 2012). Writing is a laborious effort that requires time, attention to detail, and balancing of the multiple skills described. In addition to handling the complex issues involved in the teaching of specific writing skills, instructors may also find it difficult to keep students motivated, challenged, and engaged in writing if they lack the stamina needed to complete handwritten assignments. Some educators argue that writing instruction needs to evolve to integrate technology tools to ensure that writing stays meaningful and relevant for students (Oxnevad, 2013), but it is only in recent years that the shift to digital tools has become mainstream in the writing curriculum (Akbar et al., 2017; Ene & Upton, 2018; Zheng et al., 2018). In response to this challenge of integrating technology into writing instruction, many schools use Google Docs.

The authors conducted a literature review to determine the research-based evidence for the use of Google Docs for the teaching of writing at the elementary level, with a particular interest in its use for meeting the needs of gifted students. Surprisingly, we found many articles about how to use Google Docs in the classroom but not much actual peer-reviewed research on the effectiveness of such use. It is our view that this discrepancy is an issue that needs to be addressed in future research.

The Use of Google in the Classroom

Google is now in widespread use in K-12 districts. As of 2016, Google Chromebooks comprised the majority (58%) of mobile devices rolled out to schools in the United States (Singer, 2017). The industry giant “boasts a footprint of 80 million educators and students using its G Suite for Education tools, and 40 million users using its Classroom app” (Millward, 2019, para 1). Of the millions of educators using Google Apps for Education, more than 33,500 teachers paid to take exams through Google to become Google Certified Educators (Sowash, 2018).

A teacher-training industry has been built around offering preparation for the exams beyond Google’s Teacher Center resource site: from universities offering continuing education courses (Fresno Pacific Staff, 2019) to teacher leaders and trainers creating Google Certification training. Some of these training sessions can be accessed for free online (Sowash, 2018), while others cost more than \$300 for a course (Bell, 2020). The “Googleplex” publishes a variety of websites for teachers with ideas for instruction and training for using Google apps. These sites include the official Google Education Blog (<https://www.blog.google/outreach-initiatives/education/>), the Google for Education website (<https://edu.google.com/>), and Google’s Teacher Center for training and certification (<https://teachercenter.withgoogle.com/>). Each of these websites is vast, with a multitude of pages providing information for teachers.

Educators also share the benefits of using Google tools with each other through websites, blogs, and podcasts, such as the weekly Google Teacher Podcast (<https://googleteacherpodcast.com/>). Oxnevad (2013), educator and ed-tech consultant, blogged about the features of Google Docs. This blog described the way Google Docs is designed to support collaborative writing, both synchronously and asynchronously, with tools to help with sentence mechanics (such as grammar and spell check) and word choice (such as the built-in thesaurus and dictionary; Oxnevad, 2013).

Proponents claim that Google Docs simplifies the writing process for its users and removes challenges that may hinder writing by offering integrated reference tools that support multiple languages. According to Yang (2010), “It is the collaborative editing tool that makes Google Docs a powerful program that can facilitate collaborative writing in the language classroom” (p. 2). Additionally, Nithya and Selvi (2017) pointed out that Google Docs can help students with collaboration and problem-solving, which are essential 21st-century skills.

Google and the Needs of Elementary Gifted Students

Gifted students have specific, unique needs, both academically and emotionally, yet teachers and counselors are not always provided with adequate training to meet these needs (Pandina Scot, Callahan, & Urquhart, 2009; Peterson, 2006). Some of these characteristics include “sensitivity, intensity, and psychomotor, intellectual, sensual, emotional, and imaginal overexcitabilities” (Peterson, 2009, p. 280). Perfectionism can be another characteristic of the gifted student (Adderholdt & Goldberg, 1999) which may interfere with

academic risk-taking, as “perfectionists live in a constant state of anxiety about making errors. They have extremely high standards and perceive excessive expectations and negative criticisms from others, including parents” (p. 4).

This perfectionism has implications for the English language arts classroom and the teaching of writing. Master (1983) wrote of the importance of creating a quality writing program to meet the needs of gifted students, with an awareness of these unique characteristics. In the teaching of writing, the concept of feedback can be especially problematic, as many gifted students “find any criticism, even [of] the most gentle and constructive nature, very difficult to accept” (p. 164), and “they [gifted students] are so accustomed to being the best in their group that they feel their drafts are perfect” (p. 164). The National Center for Education Evaluation and Regional Assistance, in their practice guide for teaching writing (NCEE, 2012), also considered these needs of gifted students when they recommended that teachers of gifted students “remove obstacles that may hinder students’ writing” (Kinard et al., 2019, p. 658) and recommended the use of technology to mitigate student frustration. This was in alignment with the recommendation of Dixon et al. (2005), who wrote that using a word processing program “improves the writing process by removing barriers in revision that previously existed when paper and pencil were the only available tools to compose” (p. 181–182).

Proponents of the use of Google apps for education point to features of Google Docs that may be used to address these needs of gifted students: it allows for easy and efficient revision, avoids the potentially upsetting visual of “red ink,” and promotes private feedback through the use of comments or shared documents. Hertzog and Klein (2005) noted that this use of technology could make the learning visible and encourage both critical thinking and creativity. From the point of view of practitioners becoming researchers, however, the authors decided it was important to review the available research on the true effectiveness of Google Docs in the classroom, specifically for gifted students.

Current Research on Google Docs in the Classroom

The authors combined multiple sources of education-oriented reference databases to locate empirical studies published in peer-reviewed journals. Studies were selected to focus on the ways Google Docs are being used for writing, collaboration, and feedback in writing instruction. Many of the articles found were less research-based and more efforts by practitioners sharing ideas for using the tools in the classroom. The empirical research studies that were found on the topic tended to focus on secondary or college education as opposed to elementary grades. This scarcity of research studies on the effectiveness of the use of Google Docs in education prompted our conclusions regarding the need for additional research in this area.

Studies on the Use of Google Docs in Secondary/Higher Education

While combing through the empirical research on the effectiveness of Google Docs in education, we found few studies that addressed the usefulness of collaborative programs such as Google Docs in secondary education. Studies of junior high students (Zheng et al., 2015) found that the participants preferred using Google Docs, especially for “organizing, writing, and giving and receiving feedback” (p. 21). Woodrich and Fan (2017) discovered that second-language learners are motivated to use Google Docs and are more likely to participate in this medium. However, their study did not find correlations to any improvements of standardized scores in writing, and the authors therefore concluded that “anonymous collaborative writing via Google Docs does not lead to more successful writing products” (Woodrich & Fan, 2017, p. 403).

A greater number of studies were found when including those addressing the college level. At this level, Google Docs was found to be an effective tool for empowering students, fostering collaboration, and providing feedback (Alexander & Alexander, 2011; Lin & Yang, 2013; Suwantarathip & Wichadee, 2014; Zhou et al., 2012). One study found that the collaborative use of Google Docs increased students' confidence and allowed them to take "ownership of their material and think critically about related issues when they work as a team" (Suwantarathip & Wichadee, 2014, p. 148). One negative student perspective was the "heavy reliance on the online environment and internet" (Alexander & Alexander, 2011, p. 2).

Studies on the Use of Google Docs in Elementary Education

The authors, with their specific interest in the use of Google Docs for elementary students, were unable to find many studies on the topic. Fourth grade students using Google Docs in collaboration with adult writing coaches were "motivated and engaged" with their writing when Google Docs were utilized (Abell, 2013, p. 32), and "using Google Docs helped develop an immediate and ongoing relationship between students and coaches....When students understood that they had a specific audience excited to read their revisions, it motivated them to want to write better" (p. 34). Third graders displayed similar benefits and showed a preference for the digital communication app (Gierhart & Brown, 2018), although those researchers noted that students altering or deleting the work of other students was a challenge. Although these findings are encouraging, it must be noted that these were the only two studies found regarding elementary students.

Conclusion

Practitioners in education are using Google Docs in ever-increasing numbers. Many arguments exist for the use of this tool to make student writing more meaningful and efficient and to encourage collaboration, revision, and writing for an authentic audience. The authors, however, were unable to find much empirical research to substantiate these claims. As advocates for gifted learners, we want our students to strengthen their communication skills and invest time and effort to create quality products. Additional research is needed to ascertain whether the use of Google Docs is, in fact, an effective writing tool for the learner.

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