Online School for Girls

The Online School for Girls Approach to Teaching and Learning

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The Online School for Girls (OSG) is committed to being a research-driven school. At the time of the School’s founding in 2009, a thorough examination of available research was undertaken, giving the school a guiding pedagogical approach that emphasized connection, collaboration, creativity and application. Knowing that girls learn best when feeling connected to each other, when they are collaborating with each other, when they have an opportunity to express creativity, and when they can apply what they learn to real-world problems, the School worked to build its online classrooms around “connecting” and “social” technologies to accomplish its goals.

In addition to this focus, the School has heeded both the demonstrated need to engage girls in STEM coursework and the research relating to the power that single-gender learning environments can play in developing interest and further pursuit of STEM fields.

In 2013, the school embarked on a re-examination of available scholarship in this young field. The goal of this review has been to determine if the School’s initial pillars are still relevant and accurate, and to ensure that the School’s pedagogy continues to reflect best practices in teaching girls online. What follows is a summary of the most relevant literature, from expert opinion to empirical research to broad surveys, related to the main tenets and values of the Online School for Girls, and conclusions about past and future goals.

Connection

Connection should be the hallmark of the OSG experience. Scholars who specialize in the education of girls know that girls thrive in an environment of connectedness.\(^1\) Broad surveys of the research literature conclude that the benefits of a connected environment are particularly salient in girls’ relationships with technology.\(^2\)

Because of the importance of connection to females, online courses should provide opportunities for young women to connect with their teachers. A strong connection between student and teacher in an online course is important and has been proven through empirical research to have a positive impact on student engagement.\(^3\) Lyn Mikel Brown, a widely-recognized expert on girls’ psychological and social development, believes strongly in the transformative power of girls’ relationships with their teachers, when teachers go beyond mentoring in a field or discipline and “provide girls with an environment where they are both heard and free to speak, where they can experience their own voices as substantive, worthy of being taken and responded to seriously.”\(^4\) In their survey of undergraduates taking online courses, Anderson and Haddad found that, unlike males, “females experienced greater perceived deep learning outcomes” in online courses over face-to-face courses, and that “expression of voice appeared to contribute to this outcome.”\(^5\)

To optimize learning, students should connect with each other as well as with their teachers. The benefits of providing close friendships and relationships among female students in a classroom setting are well documented. Brunner and Bennett of the Center for Children and Technology argue that the “feminine attitude towards technology looks right
through the machine to its social function...” They also note that communication is a key to engaging girls in their learning.6 Additionally, noted information technology researcher danah boyd has found that girls are attracted to technologies that enhance connectedness and provide opportunities for connection with others.7

Not only do girls learn better in an online environment where technologies establish meaningful connections among participants and serve a social function, but also such environments equip girls with the problem-solving skills needed to thrive in the online work environments created by our global economy. Experts on “21st Century Skills” assert that encouraging students to make connections across disciplines develops real-world problem solving skills necessary in the workplace.8, 9 Likewise, Howard Gardner, a leading authority on multiple intelligences, suggests that the ability to synthesize knowledge is one of the essential “minds” for today’s world and promotes opportunities in the classroom to “induce synthetic thinking.”10 Through practices that emphasize connection, the School seeks to prepare girls to lead in today’s workforce.

OSG teachers promote connection regularly in all classes. Teachers use Voicethread to introduce themselves to the students, and students to each other. They use online discussion boards in the learning management system to allow girls to discuss not only topics suggested by course work, but also unrelated, fun topics. Girls often connect with each other outside of classes; it is not unusual to hear of virtual friendships growing among girls from different schools. OSG surveys students monthly, and these surveys show that girls are making and valuing connections with their teachers and classmates.

Our conclusion is that whenever the OSG can bring a student into connection with others (her teachers, students in class, or others in the world or at her home school, etc.) or help her make connections across topics, we should continue to do so.

Collaboration

The Online School for Girls should be developing a learning community where students collaborate in meaningful ways. Katy Campbell, an expert in collaborative instructional design, notes that learning environments for girls should be designed to “create collaborative and supportive environments that acknowledge the contributions of others; value the holistic approach of connecting the cognitive and the affective, the mind and the body; and the political and the personal.”11 Bruner and Bennett suggest that “[t]echnologies are now capable of richly supporting three ingredients that make for a kind of learning that is inviting to all students, particularly girls: exploration, interpretation, and communication. The power of discovery lies in being able to build one’s own meanings, and debate and discuss one’s ideas with others.”16

A number of researchers have linked collaboration to development of critical thinking.12 A broad research survey confirms the many benefits of collaboration, particularly in STEM classes: it increases confidence in girls; it leads to higher quality work; it improves understanding of content; it improves course completion rates and exam performances; and it increases enjoyment of course work.13 A study comparing males and females in online courses also noted that women particularly value cooperation in asynchronous classes14 while a survey of the research on girls and blended learning concludes that environments where collaboration is encouraged are appealing to girls, and that girls are more successful in the technology arena when they work collaboratively.15

In addition to creating effective learning environments, collaboration, especially in an online format, prepares girls to lead in today’s economy. Through discourse and collaborative projects in online classes, exposure to multiple perspectives can be heightened. According to Dr. Yong Zhao, who studies the implications of globalization and technology on education, cultural competence, including the ability to communicate and empathize with diverse
individuals, is critical to thriving in the 21st century. Wagner reminds us that “the skillfulness of individuals working with networks of people across boundaries and from different cultures has become an essential prerequisite for a growing number of multinational corporations.” There are many ways to use technology to foster cultural competency and its sister trait “global literacy,” as highlighted by Heidi Hayes Jacobs, internationally recognized curriculum expert. 

Online classes are inherently designed to support intercultural and global collaboration. A collaborative learning environment is appealing to young women, and allows for a constructivist approach to learning, fosters critical thinking, and builds cultural competence. OSG teachers promote regular collaboration in their classes. Despite the difficulties of connecting girls from all across the country, and sometimes across the world, meaningful collaborative assignments and projects help girls to understand the power of considering multiple perspectives.

Our conclusion is that whenever the OSG can find ways to provide opportunities for meaningful collaboration among students, we should continue to do so.

Creativity

**The Online School for Girls should be valuing creativity at every step of the learning process.** Creativity is a skill that can and must be fostered by schools as careers requiring analysis give way to those favoring creativity. According to Wagner and Compton, experts in innovation, curiosity and creativity are not innate traits, but rather skills to be cultivated through intentional education.

Abigail Norfleet James, nationally known for her writing on gender based learning, suggests that the tendencies of girls to please their teachers and to take to heart criticism for incorrect responses can lead them to be risk-averse. This tendency reminds us of how critical it is that girls be taught in an environment that develops their creativity. She recommends that math and science teachers scaffold the development of creativity by demonstrating multiple approaches to problem-solving and emphasizing process over product.

Girls have traditionally seen technology and technology-related tasks as work without a creative component. In her research on gender differences in the uses of technology, Alice Christie found that girls need to see technology as a tool for creative problem solving and creative presentation of ideas. Other work has been done to enumerate the ways online classes can build creativity. A literature review on creativity in online courses itemizes several strategies for teaching creativity and problem solving. Dr. Brent Muirhead, expert in distance learning, notes that the opportunity for differentiation within online classes can also support creativity, allowing students to pursue and develop original projects in their own area of research. The online classroom can provide a forum for intentional teacher comments that model creativity by encouraging a variety of interpretations.

Bennett and Bruner stated in 1998 that we were “at a pivotal moment in the evolution of technology and education. Technologies can now be easily designed to embrace different ways of knowing, inviting diverse learners to express and develop multiple points of view.” Additionally, they noted that the “power of discovery lies in being able to build one’s own meanings, and debate and discuss one’s ideas with each other.” OSG teachers have taken advantage of this evolution by creating learning environments within their courses that nurture, value, and reward creativity and creative thinking. Creative uses of technology offer OSG students the opportunity to think critically and search for solutions to real-world problems.

Our conclusion is that whenever the OSG can find ways to provide opportunities for students to develop their intellectual curiosity and creativity, and to value the process in addition to the product, we should continue to do so.
Application

The social/ethical purpose should never be far below the surface when teaching girls. A broad research study from the Center for Research on Girls recommends an “outside in” curriculum. “Instructors should draw girls into the core content knowledge (the “inside”) by relying on the strong interest the girls will have in pursuing meaningful objectives (the “outside”). It continues that “[e]ducators should build curricular units that identify and pursue an objective that is meaningful to girls and that accomplishes a purpose which girls recognize as worthy of their time and efforts.”

“[W]henever possible teachers should incorporate technology into the curriculum that is in the service of a meaningful social objective or reality.” The “opportunity for impacting people and problems around the world is also likely to heighten the degree to which girls are engaged in the classroom.” Brown notes that girls need to understand the real-world application of their work and believe that they can impact their communities, and cites to research indicating that schools need to engage young women “in social critique and activist experiences of social transformation.”

The status quo in education has erred too far in the direction of isolating content from real world perspectives, and that has been off-putting for girls. However, OSG’s online format enables students to take any subject and recognize a real-life social/ethical context. OSG teachers tie everything they teach into a real-world context so that students understand how they can eventually apply what they are learning. Courses in all subject areas present references to current events, where students discuss what is happening in the world around them. Student surveys indicate that 90% of OSG students see how what they are learning applies to the real world.

Our conclusion is that it is important to invigorate students’ educational program by always being cognizant of ways in which to present content within the context of relevance to the real world, and that we should continue to do so.

STEM Emphasis

Schools should be promoting STEM studies to young women. Although progress has been made in some STEM fields, women are still underrepresented in many of them. Lisa Damour, from the Center for Research on Girls, in referring to Lisa Eliot’s research on gender differences, concludes that “single-gender education promotes interest in and helps girls feel at ease in subjects that are traditionally dominated by boys, including engineering and computer science.”

Rane Johnson-Stempson, Education and Scholarly Communication Principal Research Director for Microsoft Research Connections, notes that fewer than 14% of computer science graduates are women, yet the technology field is one of the “fastest-growing, most in-demand fields.” Additionally, the National Center for Women and Informational Technology (NCWIT) reports that while 56% of students taking Advanced Placement (AP) exams are female and the numbers of males and females taking AP Calculus exams are roughly equal, only 19% of students taking the AP Computer Science exam are girls. This disparity is perplexing considering that girls are avid users of technology and that technology-related jobs are not only plentiful, but they are also among the highest-paying occupations.

According to the American Association of University Women (AAUW), participating in STEM courses can improve girls’ spatial skills, expand career options, and counter negative stereotypes about innate abilities, specifically that girls are better in subjects that require language skills and boys are better in subjects that require math skills. “By encouraging a ‘growth mindset,’ teachers and parents can encourage girls’ achievements and interest in math and science.” Recruiting girls to STEM fields has many challenges. Not only are STEM-related courses considered amongst the most challenging by both genders, but girls often equate their struggles to confirmation of the stereotype that girls do not belong in STEM. Despite making good grades and high test scores in math, girls generally have lower self-assessment of their math ability than boys, “believing that they have to be exceptional to succeed in ‘male’ fields.” Social psychologist Claude
Steele describes the feeling that women may have in STEM careers and courses, “that their abilities are under suspicion, that feminine characteristics discredit their seriousness.” In an attempt to identify practices that improve girls’ interest in STEM, research cited by NCWIT found that: 1) the curriculum must be relevant, 2) pedagogies must encourage collaboration, 3) opportunities must exist for risk-taking and making mistakes, and 4) learning must be active, hands-on, and project-based.

In light of negative stereotypes about girls in STEM and the dwindling numbers of women in some STEM fields, it is crucial for schools to provide positive experiences for girls in STEM courses. OSG’s commitment to connecting content to real-world application is especially important to encourage more girls to pursue STEM-related fields of study. Similarly, sound pedagogies and classroom cultures such as collaboration, connection, and creativity that improve relevant online experiences for girls are also applicable to STEM learning environments.

**Conclusions**

Only limited relevant research has emerged since the founding of the Online School for Girls, but what has been published simply reinforces OSG’s original approach. The National Coalition of Girls Schools published a study in 2009 that reaffirmed the many benefits of girls’ schools. The U.S. Department of Education study on online learning stated that classes with online learning on average produce stronger learning outcomes than do classes with solely face-to-face learning. Additionally, a recent study by the Marzano Labs confirmed the importance of “connection” in online learning and offered research-based tips on improving achievement through online learning.

Our conclusion is that current research has reaffirmed OSG’s guiding principles and given evidence and backing to its approach. Additionally, research has suggested areas for further consideration by the School, including the following:

- How might the School enhance opportunities for relationship-building among students outside of the classroom and develop additional opportunities for interdisciplinary studies between classes?
- What unique opportunities does an online environment present that allow students to explore the applications of course material?
- How can the School maximize the opportunities to teach creativity presented by the online environment?

The Online School for Girls should continue to base its pedagogical approach on the four guiding principles established when it was founded, should maintain its curricular emphasis on STEM courses, and should further its emphasis on exploring best practices in teaching girls online in each of these four guiding principles: connection, collaboration, creativity and application.
End Notes

Bibliography


