

Reaching Girls Online: Another Path to Math (Session 14636)

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Reasons for Online Math Outreach

- Females' weaker performance, participation, dispositions
- Common technology use among youth
- Another way to reach/serve females in math
- Enhanced type of Internet use and time online

Potential Advantages

- Fit with young people's worlds
- Disinhibition (e.g., surmount shyness) due to anonymity
- Social connectivity/support
- Role models/mentors
- Additional/enhanced/self-determined learning
- Alternative learning mode
- Varied features (multimedia, discussion...)
- Motivation, engagement, enjoyment
- Flexibility and convenience

Potential Issues

- Cyberbullying and sexual harassment (inconclusive)
- Inequities across students (e.g., no Internet access)

Selected Strategies for Effective Online Social Networks

- Establish and enforce rules/guidelines for site use.
- Require that posts include real names (no anonymous posts).
- Provide training/education on discussion etiquette as well as empathy sensitivity toward others.
- Encourage interconnectivity (e.g., collaborative tasks, focused communication...).
- Conduct daily, weekly, or monthly activities to maintain active participation (e.g., a problem of the week or a monthly hosted female STEM professional as a role model).
- Design a range of activities that include semi-structured explorations, game play and design, visual/spatial tasks, programming, and so forth.
- Provide resources (links to useful websites, tips on finding local Internet access, etc.).
- Incorporate graphics for greater visual appeal.
- Pursue training/education for staff (e.g., technology skills, site design, site monitoring and discussion facilitation, current youth lingo and abbreviations, conflict resolution).

Sample Other Social-Networking Tools

- Blogs (e.g., wordpress.org)
- Wikis
- Podcasts

Selected Resources

EduSocial Networks

- Edmodo: <http://www.edmodo.com>
- Learnist: <http://learni.st>
- Lore: <http://www.lore.com>

STEM for Females Websites

- Northern Nevada Girls Math & Technology Program: <http://www.unr.edu/girls-math-camp>
- Girlstart: <http://www.girlstart.org>
- NAP's Engineer Girl: <http://www.engineergirl.org>

Books

- Mouza, C., & Lavigne, N. (Eds.). (2013). *Emerging technologies for the classroom: A learning sciences perspective*. New York: Springer.
- Tucker, C. R. (2012). *Blended learning in grades 4-12: Leveraging the power of technology to create student-centered classrooms*. Thousand Oaks, CA: Corwin.

Articles

- Glogster Edu Team. (2013, Feb. 18). Which social networks should teachers use? <http://blog.edu.glogster.com/2013/02/18/which-social-networks-should-teachers-use-edutech-monday>
- Wolpert-Gawron, H. (2013, March 1). Creating an online student lounge. <http://www.edutopia.org/blog/online-student-lounge-resources-heather-wolpert-gawron>

Lists of Websites for Teaching/Learning

- Best Websites for Teaching and Learning (American Library Association): <http://www.ala.org/aasl/guidelinesandstandards/bestlist/bestwebsites25>
- Top 20 Social Networks for Education (Tech & Learning): <http://www.techlearning.com/Default.aspx?tabid=67&EntryId=2980>

Sample Website Use Guidelines
Northern Nevada Girls Math & Technology Program
(age level: middle school)

Some appropriate ways to use this website in relation to math and technology include:

- Ask for help with a particular homework problem. (Please do so sparingly or perhaps establish an online relationship with one or two others who want to do this more often.)
- Ask understanding- or skill-oriented questions, such as why a particular math procedure works, alternative methods for solving particular problems, or how to perform a procedure in a particular software program or on a graphing calculator.
- Pose a challenging math or technology question to others to solve. It would be helpful to give others a timeline for discussing the results. For example, you might pose the problem on a Tuesday and ask that no one post a response before Thursday so that interested others have a chance to work on the problem before it is discussed.
- Share interesting math or technology content that you have learned or seen somewhere, or an interesting use of math or technology in the real world.
- Raise a personal or general issue that you would like to discuss, such as why fewer females than males enter math/technology careers, or how to get your teacher to call on you more in class if you feel you are being overlooked. In these cases, state the discussion issue, and then focus on constructive responses and solutions rather than simply complaining. Also, be sure to keep all names (such as teachers' names) confidential.
- Share success stories in math and/or technology, for example, being chosen to participate in a challenging math contest or having solved a difficult math or technology problem in or out of school.
- Share or request information about good resources and opportunities, such as good websites, useful software, or available contests or academic programs.
- Ask questions about career options and decisions related to choosing high school courses and programs of study.