Zachary J. Brewer

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EDUCATION

Teachers College, Columbia University, New York, NY
Master of Arts in Educational Technology, May 2012

Connecticut College, New London, CT
Bachelor of Arts in English, May 2004

CERTIFICATIONS

New York Educational Technology Specialist (Grades K-12), Professional Certificate, April 2016

New York Childhood Education (Grades 1-6), Professional Certificate, April 2016

TEACHING EXPERIENCE

Corlears School, New York, NY
Educational Technology Specialist, September 2012 - present

- Re-designed the school's entire pre-kindergarten to fifth grade technology program. Created a curriculum emphasizing digital media production, programming, 3D design, robotics, and integration with existing classroom curricula.
- Teach project-based lessons, utilizing laptops and iPads, to all of the school's first to fifth grade classes. Student creations include:
  - Science simulations and video games programmed using the Scratch programming language
  - Three-dimensional drafting and 3D printing of Greek temples requiring precise digital measurement
  - Animations depicting Greek myths, immigrant journeys, and science concepts
  - Catapults and Mars rovers built and programmed using Lego robotics and software
  - Research projects culminating in green-screen presentations
  - Claymation movies featuring clay characters created in art class
  - Interactive diagrams about landfills, forest layers, and river systems
  - Movies organized around narrative arc storytelling principles
  - Video public service announcements about the benefits of composting
  - Video news reports about events occurring around the school
  - Online surveys designed to gather information for school bake sales
  - Board games about the "farm-to-market" process
  - Tourism brochures about turn-of-the-century New York City buildings
- Serving as "Team Leader" for all the specialist teachers in the school. Attend weekly meetings with the administration and the other Team Leaders. Act as a liaison between the administration and the specialist teachers.
- Teach after-school and summer camp classes in Scratch programming, Lego robotics, claymation, and 3D design and printing.
- Teach a yearly digital citizenship unit to the school's fifth graders, prior to giving them their own email addresses. The unit focuses on safe information sharing, identity theft, digital footprints, and cyberbullying.
- Teach lessons using iPads to pre-kindergarten and kindergarten classes, with a focus on digital drawing, typing simple words and phrases, depicting numbers, 3D design using the Blokify app, and programming using the Scratch Jr. app.
- Film and edit videos for the Head of School, the admissions department, and for fundraisers such as the annual school auction.
- Assist teachers with various hardware and software problems, and help them plan their own technologically integrated projects.

TEACHING EXPERIENCE (continued)

My Learning Springboard, New York, NY
Mathematics Tutor, September 2017 - present

- Tutor four siblings, ages seven through twelve, who recently emigrated from Senegal. Tutor the three youngest children once per week and the oldest child four times per week. Each session lasts one hour, for a total of seven hours of mathematics tutoring per week.
- Collaborate with the children's other tutors and with the My Learning Springboard leadership team to ensure that educational goals are being met.

Public School 85, Bronx, NY
Mathematics Teacher, September 2005 - June 2007

- Designed and taught a supplemental, arts-integrated mathematics curriculum called "Math Art" to more than 300 students, third through fifth grade. The visual, hands-on activities of Math Art reinforced and expanded upon math topics while increasing student involvement and sense of accomplishment. This original curriculum was later developed into a book, currently marketed on MathActivities.net (see below).
- Collaborated with teachers to improve school-wide mathematics instruction through the integration of manipulatives, games, and open-ended activities.

Wediko Children's Services, Windsor, NH
Teacher and Counselor, June - August 2004; ***Swim Instructor and Counselor***, June – August 2003

- Designed and taught lessons in language arts to emotionally and behaviorally disabled children, ages seven through fourteen.
- Collaborated with a team of professionals to counsel young adolescents as part of an activity-based treatment program.
- Taught swimming and water safety as a Red Cross certified instructor.

ADDITIONAL EXPERIENCE

ThePoliticsGame.org, New York, NY
Sole Proprietor, June 2017 – present

- Building a web-based game using JavaScript, PHP, and SQL that simulates the United States presidential election. Players must make various campaign decisions, first to win the party nomination and then to win the general election.
- Designed an artificial intelligence that uses recursive functions to monitor poll numbers, build campaign offices, buy attack ads, pick policy positions, and campaign in specific states. The actions taken by the artificial intelligence during each turn are summarized at the beginning of the human player's turn.
- Building a mechanism that allows two humans to play against each other during the general election portion of the game.
- Integrated the game with a database via AJAX. The game saves "game states" in the database, which allows the player to reload the game from various starting points.
- Designed a map of the United States featuring 50 SVG state images that can be dynamically altered via JavaScript functions.

MathActivities.net, New York, NY
Sole Proprietor, January 2010 – present

- Authored a book entitled *Math Art: Hands-On Math Activities for Grades 2, 3, & 4*, consisting of 27 math lessons designed for visual and kinesthetic learning modalities.
- Designed a search engine friendly website, MathActivities.net, for the purpose of book promotion.
- Self-published using Amazon's CreateSpace. Over 5,500 copies sold.
- Designed and programmed a Flash application called "The Forty Frogs Game" that teaches elementary students to find fractions of a group of forty objects (www.mathactivities.net/frogs.htm).