STEAM is EASY and FUN to be a part of!

...no matter how many big words are used to describe how it could help make good education better.

COMPANY SLOGAN: FUNctional Literacy for All!!!

COMPANY MOTTO: STEAM Education provides the framework used for connecting the growing network of educational disciplines, businesses and communities to create adaptable citizen-involved, globally-responsible, reality-based programs for developing for life-long FUNctional literacy for all.

The Definition of STEAM Education

English: STEAM is a way to teach how all things relate to each other, in school and in life. It’s more fun than traditional learning styles and makes more sense to all types of learners because it is based on the natural ways that people learn and are interested in things.

Educational Lingo: STEAM provides an avenue for formally teaching the inter-relationships of how subjects relate in real-life. STEAM-style education can be enjoyably and meaningfully delivered in more engaging and deeply embedding ways within the already well-established realm of education.

The philosophy of STEAM revolves around the concept that:

STEAM = Science & Technology interpreted through Engineering & the Arts, all based in Mathematical elements.

English: STEAM lessons are written by educators to match the national and state level benchmarks that testing systems are based on.

STEAM lessons do not require expensive equipment or special classrooms, spaces or equipment, most of them use common items, some of them will certainly benefit from having things like 3D printers and greenhouses, but there are ways to implement this in standard styled classrooms.

The program was designed from the beginning to work in ANY educational program ANYWHERE, virtual and in-person, during the regular school day or in after-school programs, camps, museums, etc. Existing and new schools can become a STEAM program or just use parts of it to add to their program.

STEAM lessons are built with educators, for educators, who contribute to creating and updating them regularly. That means that as educators around the world work on keeping up with things that change quickly in our world, STEAM creates a network to unite them to create lesson plans that are shared by everyone in the network. That way if something happens, like a planet is no longer called a planet, there is no waiting for the next textbook to have that change. There are people immediately updating curricula at every grade level. When there is a major
invention, massive storm or political event, all of them have a chance to be incorporated into the curriculum rapidly.

Best of all, STEAM lessons are not made by a small group of people that decide what is worth putting in a curriculum. Educators can pick and choose from a variety of lessons to find ones they can most easily adapt for their students and customize it to match current world events.

All students should have the opportunity to able to learn in the ways that align with their brain development and what matters to them so that all people have the best chance of finding a good path that makes them able to afford a good, basic lifestyle and be happy.

**English:** Students like STEAM lessons because they are almost always investigating things that matter to them. An average lesson starts with giving the students a reason to be interested in the topic by showing them the social studies connection, then students research things to learn the content they need to know to gather and analyze data, then they plan and build something, correct it, analyze it and report on it.

Students learn to organize with mathematics, while they research as scientists and historians by using technology so that they can understand and communicate about what is needed and possible in engineering.

**Educational Lingo:** This framework is engaging, hands-on and reality-based with many extensions to draw education, industry, government and the community together for the common good of bettering public education for all while meeting NCLB guidelines and STEM related goals.

**English:** STEAM teaching allows educators to customize the learning experience and the amount and style of delivering content so that students can each learn similar content within one classroom in a variety of ways, so that whatever ways work best for them, they can benefit from. Therefore students of all types, such as those marked as having talents or learning difficulties, can each take things to the level of complexity that they can and be appropriately pushed a little beyond what is easy for them. When they find something difficult, there are natural ways to break it down and look at it differently until students can understand parts of it and start from there. There are a lot of amazing people who have had educational plans and philosophies and great movements in education; STEAM is not something entirely new, STEAM is a way to organize and incorporate the best practices and ideas and customize it for each learning experience and person involved.

**Educational Lingo:** It’s also customizable to individual teaching and learning styles without needing extension lessons to meet ‘Individual and Differential Educational Plans.’ It aligns well with many educational theories and
instructional strategies already widely accepted such as: Marzano strategies, Bloom’s taxonomy, Constructivism, Multiple Intelligences, Actor Network Theory, and many more.

**English:** STEAM Education affects everyone, because it is based in learning about everyone’s situations and what the world best needs to go forward with as individuals, programs, communities, regions, countries and globally. The more people that contribute their skills and interest and expertise to the network, the more our students will benefit from a community supporting them.

**Educational Lingo:** STEAM is useful to learn about for administrators, legislators, educators and students. It is extensively research-based and in proven practice.

General inquiries about our programs should go to contact@steamedu.com. Media and newsletter inquiries should go to marketing@steamedu.com.

Georgette Yakman and the Development of STEAM Education

About Georgette Yakman

**English:** Georgette is a geek- she can’t help it. She is not a natural athlete although she loves hiking, kayaking and skiing, but she REALLY loves doing research, planning, designing & creating new things. She loves learning and making things better for others. She has owned a used-bookstore, designed clothing and homes and now designs educational structures. She has run international big businesses and small stores. She has a good balance of being analytical and creative and has worked with many people from all walks of life. She has lived very humbly for most of her life, quite meagerly for some of her life, and also has had the opportunity to travel a lot. She is passionate about having things work for all kinds of people, accepting others, respecting people’s rights and beliefs and making the world a better place. She tells people that she used to make better products, now she helps make

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better people. She started the STEAM movement by doing a lot of research in college and then practiced it as a teacher in an Appalachian school district. Now she gives talks, works with schools and trains educators on how to develop and implement STEAM programs around the world.

**Educational Lingo:** STEAM was developed in 2006 by Georgette Yakman, who then was a master’s graduated student at Virginia Polytechnic Institute and State University’s Integrated Science-Technology-Engineering-Mathematics Educational program (ISTEmed). Since then she has continued to evolve the concept by including more research and practice on the topic. She herself has used STEAM with significant results as a full-time middle-school and high-school teacher and educational consultant. She has been invited to consult, speak and lead professional development opportunities at local, state, national and international levels. The development of this website is to help meet the demand for STEAM related materials.

**Georgette Yakman’s Short Bio**

Georgette Yakman is the founding researcher and creator of STEAM education. In 2006, she developed the framework and began implementation in 2007 as a middle and high school Engineering & Technology teacher. She was president of her state teaching organization and Teacher of the Year with a regional technological business group.

Her framework includes a way for all the subjects to relate to each other and to a rapidly changing world for developing reality-based life-long learning skills called ‘FUNctional Literacy for All.’ This means learning and using the idea that “Science and Technology are interpreted through Engineering and the (social, language, physical, musical and fine) Arts, all based in elements of Mathematics.”

As international regions adopt the STEAM framework, she became a consultant helping to develop programs in the US, Korea and Qatar. She has trained over 2700+ teachers in 40 US states, 3 US Territories and 24 foreign countries. These programs show significant improvements in student engagement and retention, and stronger interest from families, communities and businesses. She has been recognized by many groups with awards, speaking invitations, interviews and articles.

She has worked as an architectural designer and VP of a clothing company in the US and Ecuador. She holds a Clothing and Textiles B.S., a Technology Education MaEd. and an Integrated STEM post-master’s degree all from Virginia Polytechnic.

**Georgette Yakman’s STEAM-related career highlights include:**

2017

- Prakken Professional Cooperation Award Recipient at ITEEA Conference- Dallas, Texas.
Presented to an individual who, through teaching, research, and professional service, has promoted the field of technology and engineering education in collaboration with other fields of discipline.

- Steam Education co-presented the First International / US STEAM Conference Strand at ITEEA Conference – Dallas, Texas
- Keynote at BETT Education Technology Conference, London, United Kingdom

2016
- Invited as Keynote Presenter at CEEIA Conference and WMEA Meetings. Nanning, China
- Invited Special Presenter for the Dubai Ministry of Education: “STEAM for Universal Development” – Dubai, UAE

2015
- Elected US Representative for the International Maker Education Committee constitution framing meeting – Beijing, China – December 11th to present time
- Key participant at the International Maker Education Forum launch, Beijing and Nanjing, China
- Panel Presenter at the Global Education Futures Forum, Menlo-Park, California. She presented on the panel “Outside the Box – From Systems to Ecosystems.”
- Keynote at the Arkansas Association for Supervision and Curriculum Development – Hot Springs, AR
- Keynote at the College of New Rochelle Imagination, Inquiry & Innovation Institute – New Rochelle, NY
- Panelist at the Global Education Futures Forum – Menlo Park, CA
- Invited Member for the Global Education Futures Forum – Spring – meeting: Menlo Park, CA; April 1st to present time

2014
- Keynote at the STEAM Student Conference – Chicago, IL
- Keynote at the Shanghai Forum on STEM Literacy – Shanghai, China
- Invited Roundtable Presenter at Open Innovations Forum – Moscow, Russia

2013
- STΣ@M Education Copyright and Trademark Registered with the US PTO on 1/8/13
- Invited Presenter and Consultant international STEAM Education meeting backed by the Qatar Foundation International and The New York Academy of Sciences – Doha, Qatar
- Keynote at the Educators B.G. Raines Education Forum – Abingdon, VA
- 371 educators trained from 11 US states from: K-12, higher ed, camps, outreach & museums

2012
- 2 pilot US public schools, ES in AL and MS in NC, adopted STEAM Education
- Presenter at International Technology and Engineering Education Association

2011
- Rapid Fire Presenter at the Big Ideas Fest 2011, Institute for the Study of Knowledge Management in Education – Half Moon Bay, CA
- Keynote Speaker at Korean STEM/STEAM Conference – Seoul & Daegu, Korea
- STEAM Educational Framework selected by the Korean Minister of Education as the new way to teach innovative science for all K-12 students in S. Korea

2010
- Commencement Keynote speaker at VA Tech’s School of Apparel, Housing and Resource Management – Blacksburg, VA
- Keynote Speaker at Texas A&M Aggie STEM Conference – College Station, TX
- President of Virginia Technology Education Association

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2009
- Received an advanced degree in Integrated STEM Education from VA Tech
- Invited presenter at the VA Governor’s STEM Conference – Richmond, Virginia
- Awarded Educator of the Year – New VA Corridor Technology Council, for creatively using math, science and technology to transfer knowledge and help develop future technology leaders – Roanoke, VA
- Advisor to National First Place Technology Student Association High School Team from Pulaski County High School – Fashion Design Division – Denver, CO
- Co-Advisor to National First Place Technology Student Association Middle School Team from Blacksburg, VA – Biotechnology/Agriculture Division – Denver, CO

2008
- STEAM research first published in 2008 by PATT organization in the Netherlands
- STEAM Education high school program starts in VA.

2007
- STΣ@M Education Copyright and Trademark Granted
- Technology Education Master’s certificate from VA Tech
- STEAM Education middle school program starts in VA.

2006
- Graduate work in iSTEMed was developing an integrated framework: STEAM – VA Tech
- STEM Outreach Initiative Graduate Assistant – VA Tech

Prior to working in education, Georgette had other careers:

- The Vice President of Marketing and Production for an international clothing production and distribution company
- An architectural designer for historical homes in Blacksburg, VA
- A brand imaging consultant for an international food chain
- An award-winning entrepreneur, book dealer, who survived the “dot-com-bust”

Click HERE to download Georgette Yakman’s Curriculum Vitae/Resume to see the scope of her contributions to the field of education.

Click HERE to download Georgette Yakman’s Biography.

Click HERE to download the STEAM Education Overview Sheet.