# A note on # EdTech Startups in Connecticut's Educational Technology Ecosystem

Testimonial submitted to CT Commission on Educational Technology – Dec 3rd, 2018

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*"Don't limit a child to your own learning, for she was born in another time."*
*~~ Rabindranath Tagore (Nobel Laureate in Literature. 1861-1941)*

## Preface

The post 'Connecting Connecticut's EdTech Community' by Doug Casey (Executive Director, Connecticut Commission for Educational Technology)[2] gave an overview of Connecticut's EdTech ecosystem. It described the need to connect the various entities in the fragmented ecosystem to form an 'Education Innovation Cluster'. This brief note provides a perspective on startup entrepreneurs who can provide innovative products and services in Connecticut's EdTech ecosystem.

## #EdTech ecosystem

The establishment of the Connecticut Educational Software Hub[3] is encouraging to an EdTech entrepreneur. It is a "market place" where vendors can offer their products to the educators in schools and colleges in Connecticut. Vendors can obtain reviews of their products and act upon the feedback for improvement and product growth. There is a need to incorporate the startups into the EdTech ecosystem in a more meaningful way. This entails an open innovation process[4] and partnerships with educators and their institutions – technologies supporting teaching will provide more effective learning[5]. Currently, there are over 70 Connecticut EdTech companies and a unified framework to collaborate, access to markets, and resources for their growth will greatly benefit the EdTech ecosystem. Generally, the EdTech market is segmented into three

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[1] West Hartford CT E: sbc@gmx.us. My thanks to Prof. Chad Ellis (Trinity College) for discussions during his graduate course in Education Policy (taken in the Fall 2018 semester).
[2] Connecting Connecticut's EdTech Community (April 27, 2018)
https://ctnext.com/blog/connecting-connecticuts-edtech-communit/
[3] Connecticut Educational Software Hub
http://connecticut.learnplatform.com/
[4] The Era of Open Innovation (MIT SMR Spring 2003)
https://sloanreview.mit.edu/article/the-era-of-open-innovation/
[5] Can Technology Reinvent Education? (Harvard Business Review, March 2011)
https://hbr.org/2011/03/robin-willner-is-vice

sectors: K-12, College, and Lifelong Learning. The Connecticut Conference of Independent Colleges has a working group that examines Innovation & Entrepreneurship in Higher Education[6]. The EdTech market is large - US educational applications market is predicted to reach US$5.8 billion by 2019[7]. In 2016, K-12 education made up about 79 per cent of the market and higher education 21 per cent[8]. There is a need for startup entrepreneurs to see all sectors in a holistic manner for market opportunities, startup growth, and partnerships in order to grow the 'Education Innovation Cluster'.

**Disruptive Innovation and opportunities**

New teaching methods and issues in Personalized Learning[9], STEM[10], Blended Learning[11], and Digital Equity[12] bring opportunities to the entrepreneur. But solutions cannot be achieved without the collaboration of teachers[13] and students[14]. New technologies can provide effective tools to improve outcomes in academic performance, productivity, and lower costs. These technologies require technical skills, opportunity assessments and risk management which can be attained by the cooperation within the EdTech ecosystem.

A new wave of technology brings disruptive innovation into the classroom that impacts learning and changes in the EdTech ecosystem:

- AR/VR – Augmented Reality/Virtual Reality – The market for immersive learning is growing – by 2025, $700 million will be invested in AR/VR education applications[15] and

[6] Higher Education Innovation & Entrepreneurship Working Group
http://www.theccic.org/forms/higher-ed-working-group-site-visit-materials/
[7] Updated snapshot of the US EdTech sector in 2018 (22 October, 2018)
https://www.austrade.gov.au/australian/education/news/reports/updated-us-edtech-market-snapshot-released
[8] Ibid
[9] Emerging Technologies Supporting Personalized Learning (May 24, 2018)
https://www.thetechedvocate.org/emerging-technologies-supporting-personalized-learning/
[10] How Should We Prepare STEM Teachers? (May 1, 2018)
https://www.thetechedvocate.org/how-should-we-prepare-stem-teachers/
[11] Blended learning emerges as a leading trend in education technology (Oct 6, 2016)
https://www.thetechedvocate.org/blended-learning-emerges-leading-trend-education-technology-report-says/
[12] Digital Equity Toolkit - CT Educational Technology, December 2017
https://www.ct.gov/ctedtech/lib/ctedtech/CT_Digital_Equity_Toolkit.pdf
[13] How To Find The Right Teacher For Your Education Startup (Forbes March 13, 2018)
https://www.forbes.com/sites/robynshulman/2018/03/18/how-to-find-the-right-teacher-for-your-education-startup/#13715c4b2ee5
[14] If You Really Want to Design Useful Edtech, Start with Students
https://www.thetechedvocate.org/really-want-design-useful-edtech-start-students/
[15] How AR and VR Will Revolutionize the Classroom (May 10, 2018)
https://readwrite.com/2018/05/10/how-ar-and-vr-will-revolutionize-the-classroom/

by 2021, about 60 percent of all US higher education institutions will be using virtual reality in the classroom[16].

- Artificial Intelligence (AI) – This group of technology is expected to have an immense impact on education - "It is set to change not only *what* teachers teach but *how* they teach"[17]. Bill Gates sees it changing schools via personalized learning[18].
- Blockchain – Educational applications using Blockchain remains nascent with a few known applications that show potential in education[19]. In June 2018, the Connecticut legislature passed Bill SA 18-8 to study Blockchain[20].
- Cloud Computing & Online learning – Online courses (MOOCs) widens the access to education and helps mitigate costs. Opportunities exists to provide new educational content and blended learning with lower costs[21].
- Big Data and Analytics – Measuring effectiveness of educational programs and teaching outcomes calls for an unprecedented use of data and analytics[22].
- Gamification – An increasingly popular way to teach as shown by Microsoft's 'Minecraft' system that is popular in the K-12 classrooms[23].

## Growing EdTech Entrepreneurship

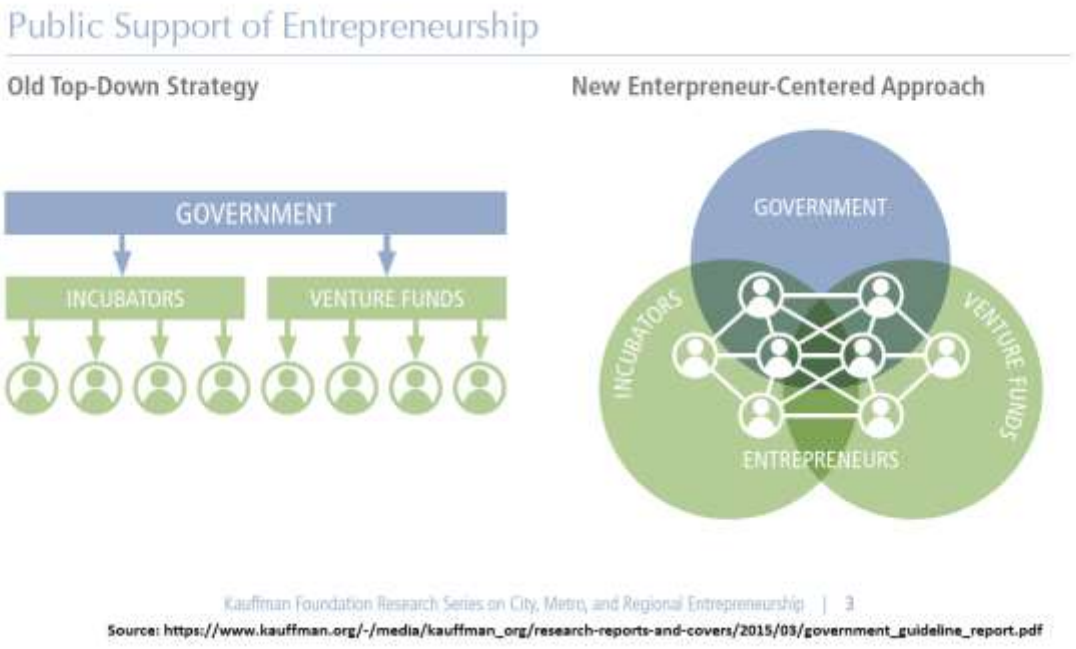
Growing EdTech entrepreneurship can be done by building cooperative networks via programs and activities that bring technologists and educators together to explore innovation. The growth

[16] More Than Half Of Colleges Will Use Virtual Reality To Enhance Education By 2021 (Forbes Oct 17, 2017)
https://www.forbes.com/sites/delltechnologies/2017/10/17/more-than-half-of-colleges-will-use-virtual-reality-to-enhance-education-by-2021/#2a62cf936c48
[17] The role of education in AI (and vice versa) - McKinsey April 2018
https://www.mckinsey.com/featured-insights/artificial-intelligence/the-role-of-education-in-ai-and-vice-versa
[18] Can AI fix education? We asked Bill Gates (April 25, 2016)
https://www.theverge.com/2016/4/25/11492102/bill-gates-interview-education-software-artificial-intelligence
[19] What Type of Blockchain Would be Better for Educational Tasks? (July 10, 2018)
https://hackernoon.com/what-type-of-blockchain-would-be-better-for-educational-tasks-a203dde826c3
[20] 2018 CT Act 18-8 - An Act Establishing the Connecticut Blockchain Working Group (I had provided testimonial for this bill)
https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&which_year=2018&bill_num=443
[21] How Online Innovators Are Disrupting Education (Harvard Business Review, November 2011)
https://hbr.org/2011/11/how-online-innovators-are-disr
[22] The Future of Big Data and Analytics in K-12 Education (January 11, 2016)
https://www.edweek.org/ew/articles/2016/01/13/the-future-of-big-data-and-analytics.html
[23] Game On: Teachers Should Continue to Gamify Classrooms (Sept 28, 2018)
https://edtechmagazine.com/k12/article/2018/09/game-teachers-should-continue-gamify-classrooms

of EdTech startups in the cluster will be dependent upon a collaborative ecosystem that is open to innovation[24] and entrepreneurship[25].

The global EdTech market is growing[26] that is giving individual startups tremendous opportunities world-wide[27]. The inclusion of `startup entrepreneurs in development programs is crucial to Connecticut's economy. To include and give startup entrepreneurs access to resources and funding is important - this new entrepreneur-centered approach will assure growth of innovation in the EdTech ecosystem.

Figure - Public Support of Entrepreneurship[28]




[24] The Era of Open Innovation (MIT SMR Spring 2003)
https://sloanreview.mit.edu/article/the-era-of-open-innovation/
[25] Guidelines for Local and State Governments to Promote Entrepreneurship (Kauffman Foundation, March 2015)
https://www.kauffman.org/what-we-do/research/city-metro-and-regional-entrepreneurship/guidelines-for-local-and-state-governments-to-promote-entrepreneurship
[26] Global Report Predicts EdTech Spend to Reach $252bn by 2020 (May 25, 2016)
https://www.prnewswire.com/news-releases/global-report-predicts-edtech-spend-to-reach-252bn-by-2020-580765301.html
[27] EdTech Investments Rise To A Historical $9.5 Billion: What Your Startup Needs To Know (Forbes Jan 26, 2016)
https://www.forbes.com/sites/robynshulman/2018/01/26/edtech-investments-rise-to-a-historical-9-5-billion-what-your-startup-needs-to-know/#6e2d50cc3a38
[28] Guidelines for Local and State Governments to Promote Entrepreneurship (Kauffman Foundation, March 2015)
https://www.kauffman.org/what-we-do/research/city-metro-and-regional-entrepreneurship/guidelines-for-local-and-state-governments-to-promote-entrepreneurship