Did the STEAM Movement Result in Education and Workforce Change in 2014?
Is a Policy Window Opened now?

My original article for *CultureWork* (2014) sought to offer a public policy perspective on STEAM[i] why and how it occurred and its significance for the U.S. workforce. Using John Kingdon's framework (1995) referring to a "policy window" (where policy issues move onto the government agenda and towards decision and action), the article explored whether a policy window for STEAM had opened with the effort to add the arts (and design) to science, engineering, and math education (STEM).

Kingdon described the process of opening a policy window as involving three convergent streams: (1) the problem stream involving problem identification and recognition; (2) the policy stream populated by disparate policy communities producing alternatives and proposals; and (3) the political stream incorporating shifts and in public opinion, administration changes, and interest-group dynamics determining receptivity of new or changing policies. As Kingdon stated, these three streams are coupled by policy entrepreneurs at critical points in an effort to influence the policy agenda.

By merging these streams, a policy window opens. If coupling does not occur when the problem or political streams set the government agenda, there is little chance an item will go forward. Thus, when a problem is identified and the political environment favorable, it is vital that the policy stream produce viable alternatives for change to happen. Otherwise, there is a good chance the excitement will fade and the item dropped.

Did a policy window for STEAM occur previously? The answer is yes. Were arts and culture advocates successful in advancing their agenda? Somewhat.

One of the main reasons that the first "Window" opened was that John Maeda, former president of RISD [ii]advanced the STEAM concept and acted as its "face." He was the policy entrepreneur that coupled the streams. He saw art and design, and design in particular, as the best way to reach the broader public. Unfortunately, Maeda left for Silicon Valley and the STEAM bill sponsored by Jim Langevin (D-RI) and co-sponsored by Suzanne Bonimici (D-OR) died in committee.

Where is STEAM in 2017? The problem is still clearly understood. The policy community is still active in advocating for the inclusion of the arts into STEM. Universities and the education and business sectors are still very much engaged. What has changed?

The political stream has changed. President Obama was a strong advocate for STEM and had allocated resources. Congress had organized a STEAM Caucus (chaired by Bonimici) and legislation by Langevin (HR-247)[iii] that encouraged the inclusion of the arts and design into STEM would encourage innovation and economic growth.

While Congressman Langevin is poised to reintroduce STEAM legislation, the political landscape has changed. Support is strong on the state level, but there is concern about the Executive and Federal branches. Given the recent election and cabinet appointments, advocates are worried. The original bill had bi-partisan support, but may not have it now.

Second, there is no policy entrepreneur such as John Maeda currently championing STEAM.

Yet there is hope. While "Design" was the earlier hook, the new hook may well be seeing STEAM, as the centers at RIC[iv] and OSU[v], do as a "way of thinking and living," thus encouraging lifelong critical and creative thinking with implications for education K-20 and the workforce. It also has the potential to address the gender and race gap in STEM (see the movie *Hidden Figures*) and assist in developing the capacity for all students, particularly those who respective fields.

References

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[i] STEAM refers to Science, Technology, Engineering, (the Arts and Design) and Math

[ii] The Rhode Island School of Design

[iii] HR-247 (114 Congress) Expresses the Sense of the House of Representatives that adding Art and Design into Federal Programs that target the Science, Technology, Engineering and Math (STEM) fields encourages innovation and economic growth in the U.S. STEAM to STEAM encourages the inclusion of Art and Design into the STEM fields during the reauthorization of the Elementary and Secondary Education Act and the Higher Education Act.

[iv] Rhode Island College (RIC)

[v] Oregon State University (OSU)

Author Bio

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