

Publications

NRC 2016

Making Stories: How Adult and Youth Makers Represent their Work Online

Tucker-Raymond, E., Gravel, B., Wagh, A., & Kohberger, K. (2016). Making Stories: How Adult and Youth Makers Represent their Work Online. Paper presented at National Reading Conference Annual Meeting, December 30, 2016, Nashville, TN.

- [presentation](#)

FabLearn 2016

Wagh, A., Gravel, B., Tucker-Raymond, E. & Klimczak, S. (In press). Negotiating tensions between aesthetics, meaning and technics for disciplinary engagement. To be printed in the Proceedings of the International Conference of ACM SIGCHI FabLearn Conference.

Abstract

For educators, making has become a compelling activity for creating expansive learning opportunities in STEM. Less well known are the ways in which disciplinary learning unfolds over time for makers. We explore critical junctures in the ongoing journey of one project from a youth maker, Nasir. For this project, Nasir decided to design and build a set of interlocking gears to represent his ideas about the tensions between Black Lives Matter and "all lives matter" discourses. We postulate that tensions between three dimensions or within any one dimension serve to drive his engagement: a) Ideas he wanted to express through the project (e.g., about the Black Lives Matter movement); b) the envisioned aesthetics, (e.g., does it look good?); and c) technics, (e.g., features of the tools and materials in use). We argue that in grappling with and negotiating tensions between or within these dimensions, Nasir engages deep disciplinary practices, particularly in mathematics and engineering. We then discuss the implications of this theoretical model.

- [paper](#)

STEM for All 2016

This video, an overview of the STEMLiMS project, was made for the NSF STEM Videohall Showcase.

<http://stemforall2016.videohall.com/presentations/734>

Making it social: Considering the purpose of literacies to support participation in making and engineering

Tucker-Raymond, E., Gravel, B., Wagh, A., & Wilson, N. (2016). Making it social: Considering the purpose of literacies to support participation in making and engineering. *Journal of Adolescent and Adult Literacy* 60, 207-211

This manuscript is a case study of one youth maker, Naeem, and the ways in which he shares his work in an online maker community--instructables.com. [Exploring the ways in which Naeem uses the social and intellectual practices of the makerspace in which he participates, we draw principles for supporting literacies in makerspaces.](#)

<http://onlinelibrary.wiley.com/doi/10.1002/jaal.583/abstract>

American Educational Research Association 2016

Tucker-Raymond, E., Gravel, B., Kohberger, K., Browne, K. (2016, April). STEM Literacy Practices in Adult Literacy Spaces. *American Educational Research Association. Washington, DC.*

Abstract

We describe literacies as they relate to STEM (Science, Technology, Engineering, and Mathematics) and Arts fields at two different adult makerspaces. Artisan's Asylum is a 40,000 square foot multi-shop makerspace with hundreds of members and DGF Technologies was a small engineering and rapid prototyping firm with nine employees. Results show that literacy practices were enacted differently due to different organizational, social, and physical spaces at each site. We show how in Artisan's Asylum space mediates communication and how members use multiple representations. At DGF we show how learning and literacies were structured across job types. We suggest implications for more formal learning spaces with youth.

- [poster](#)

Literacy Research Association 2015

Tucker-Raymond, E., Gravel, B., Kohberger, K., & Browne, K. (December, 2015). Creative Representations: Literacy Practices in Making Activities. *Paper presented at the annual meeting of the Literacy Research Association, Carlsbad, CA.*

Abstract

This article suggests an analytic frame for observing and explaining literacy practices in makerspaces by describing four different adult maker literacy practices: a) identifying, organizing, and integrating information across sources; b) creating and traversing representations; c) communicating with others for giving or receiving help, feedback, or showing a project at different stages of the making process (e.g., ideating, designing/planning, making, sharing). Through interviews we explore fourteen adults' creative representational processes with the goal of helping to document and build expansive spaces for learning and literacy that are inclusive of a wide range of making activities and learning opportunities.

Literacy Research Association 2015 Presentation

- [introduction](#)
- [presentation](#)

National Science Foundation Forum on Next Generation STEM Learning for All - Fall 2015

- [information](#)
- [poster](#)

FabLearn 2015 The Practice of IOI in Making

Gravel, B.E., Tucker-Raymond, E., Kohberger, K., & Browne, K. (2015, September). Literacy practices of experienced makers: Tools for navigating and understanding landscapes of possibility. Paper presented at FabLearn 2015, Stanford University, Palo Alto, CA.

"We had to find you know the right suppliers, and the right parts and custom make some parts and um, eventually we got there." - A

"Almost always the first step for me is to identify the community that is good at it... figuring out which one of those it is, is a mix of what community is [responsible]." - B

"Did [this new component] just solve my problems and I can just stick it into my project [to improve it] or do I have to figure out how [the new component works in order to change its configuration to work with my parts]? Alright, so I take sort of a people to people approach, or a related project search to start exploring what other projects have parts that might be useful." - C

"Here's what I have, and I know what is in my inventory, and I know where [new components] can connect, and one might have a wireless means of connecting to my creation, and others might use ethernet, or a new type of cable and/or connector. I have to determine whether my new and existing components speak the same voltage... if not, I have to figure out whether it is worth acquiring or making an interface that can connect old and new parts?" - C

- [paper](#)