



PRESENTS
A 2015 Student Seminar on
LEGO & Additive Manufacturing Processes in Technical Communication Teaching and Research

Hosted by: Dept. of Media & Communication, Rensselaer Polytechnic Institute

Technical Support: Technical Communication Laboratory at Centre for Language Research, University of Aizu, JAPAN

3D printing represents the third industrial revolution in manufacturing. This open-source revolution in manufacturing has changed the way we think about production, sales, product customization and servicing. Think of how we buy parts to replace broken ones, and what if the store were to upload a file, sell it on their website, and we as consumers then download and print it? Looking at the world and trying to think of ways to improve it creatively through 3D printing have changed our entire mindset. An interesting teaching application would be to use such additive manufacturing concepts to teach English language in a non-native context within an active learning framework. How do we use task-based language teaching fundamentals to include LEGO use and additive manufacturing processes in a language (or technical communication) classroom? As technical communicators, how can we make best use of this manufacturing revolution to understand customer mindset, maximize product usability, and improve the product development lifecycle? What does this revolution mean for UX design?

Participants: Selected PhD students (by invitation only)

Presentation Guidelines:

- Each student will choose two topics.
- No two students can speak on the same topic.
- Each student will have 45 minutes for presentation, including Q&A.
- PowerPoint / Keynote presentations only

Submission Guidelines: Please choose a topic from the list below, and submit a 250-words abstract of your talk to Prof. Grice.

Abstract Submission Deadline: 1st September 2015

Seminar Date: 18th September 2015

Venue: To be decided

Schedule: To be announced later

Contact: Prof. Roger Grice (email: gricer@rpi.edu)

CALL FOR PRESENTATION

Teaching Topics:

1. Additive manufacturing in a language classroom - A task-based language learning perspective
2. Additive manufacturing in a usability course – A course design perspective
3. Using 3D scanners to teach design fundamentals
4. Teaching information design using LEGO bricks – An EFL teaching perspective
5. Teaching information design by using CAD software such as *Tinkercad*, *BuildwithChrome*, and *LEGO Digital Designer* etc.
6. In-class use of 3D-printing assignments to teach technical writing – an instructional design perspective
7. Innovative LEGO assignments in an EFL classroom

Research Topics:

1. Use of 3D scanners to understand reverse engineering processes – an information design perspective
2. Use of 3D scanners to understand product usability – A cognitive / behavioral perspective
3. How can usability professionals use 3D printers with maximum efficiency?
4. Does 3D printing produce usable objects? – An open debate
5. **FaBrickation** is a new approach to speed up 3D printed rapid prototyping – Importance of the approach for product development and communication
<http://makezine.com/2014/02/08/legofy-it-3d-printing-lego-for-fast-prototyping/>
6. Will LEGO and additive manufacturing fit together? – An open debate
<http://www.rapidreadytech.com/2014/03/will-lego-and-additive-manufacturing-fit-together/>
7. 3D printing for better customer communication
<http://www.mmsonline.com/articles/3d-printing-for-better-customer-communication>