Future Design Studio

Building a growth mindset and a path to persistence through improvisation and design fiction

Dr. Aubrey Wigner - Broad College of Business
Dr. Megan Halpern and Dr. Isaac Record - Lyman Briggs College
Michigan State University
Funded by Science and Society at State
FYEE - 2018
Future Design Studio

- For students in the INQUIRE program
  - ~50 students
  - Interested in STEM, but lack prerequisites
  - 70% women, 48% underrepresented minority, 47% high need financially, 38% first generation college
  - INQUIRE brings them up to speed in their first semester

- Two day orientation workshop
- Facilitated by professional improv actors
Goals of Future Design Studio

• Short term goals
  • Start building a Growth Mindset
  • Increase self-confidence with communicating
  • Instill reflexivity when thinking about science and technology
  • Introduce students to faculty before classes begin
  • Cohort and community building

• Long term goals
  • Increase persistence in STEM fields
Components of Future Design Studio

**PART I**
Introduction to Improvisation

AIM
Learn the basic skills and rules of improvisation, including “yes and” brainstorming and thinking on your feet.

SKILLS
Brainstorming
Confidence Building
Public Speaking

**PART II**
Group Prototyping Activity

AIM
Work in teams to develop a lo-fi prototype and a short “user manual” of an artifact from 100 years in the future.

SKILLS
Collaboration
Rapid Prototyping
Design Thinking
Creative Exploration

**PART III**
Improvisational Performance and Discussion

AIM
Use the skills from Part I and the artifacts from Part II to build worlds in which the performers explore the social implications of emergent science and technology.

SKILLS
Collaboration
Public Speaking
Critical Thinking

**OUTCOMES**
Students will have early opportunities to develop peer networks, and will be able to develop the collaborative and interpersonal skills through which they build and foster these networks.

Students will develop their ability to think creatively and will enhance their problem-solving skills.

Students will use critical thinking to deepen their understanding of the relationship between science, technology and society.
Choose your own adventure

• We feel tired after a busy conference. We just want to hear the step by step process of how you organized and ran Future Design Studio
  • Go to slide 6

• We’d rather experience a micro version of the workshop and will harass you later for these slides.
  • Go to slide 8
Pre-workshop freewrite – What will the world look like in 100 years?

The world will be all robots. People will be able to literally do nothing. Yet, it is sad but true, the revolution of technology is becoming more and more great. The creators aren't aware of the human disadvantage but technology is quite convenient and non-money pay. Also, the world would probably come up with treatments for STD that weren't able to be sewed/helped.
Improvisation
FYEE – Improvisation Lightning Round!
• Stand up and shake it out.

• Pair up

• Party planning
• More party planning
• Debrief
FYEE – Improvisation Lightning Round!

- Now group up with 4-5 people.

- Tell the story of your favorite FYEE experience, one word at a time.

- Debrief

Go to Slide 14
Improvisation goals

• Cohort building
• Creative priming
• Building a “Yes, and...” mindset
• Break through fears about public speaking

• Exercises/games and debriefs between games
100 years ago

washing clothes

the washing machine went to market in the 1920s, but it was 40 years before even half of US households had one

keeping cool

the refrigerator came to market in the 1920s and reached 50% saturation around 1940

making light

electricity was only in about 1/3 of homes in 1917

computers

in 1917, “computer” was a job title

farming labor

in the 1940s, tractors finally outnumbered horses and mules on farms

the more things change

convergence

typewriter

telephone

census machine

camera

adoption takes time

airplanes got faster and safer, air conditioning got smaller and quieter

design

design with us

the pill

the contraceptive pill was approved in the United States in the 1960s and may have catalyzed the sexual revolution

penicillin

penicillin was discovered in 1928, but was not in regular use until 1942

consumption spreads faster today

Thanks to

The MSU Museum
College of Arts and Letters (CAL)
Lyman Briggs College
Department of Theatre
science fiction inspires science fact

direct inspiration

1927 video conferencing first appeared in the classic science fiction film, Metropolis

1966 the Star Trek Communicator was the precursor to the first cell phone

1987 Voyager’s replicators look remarkably like today’s 3D printers

1992 Lawnmower Man provided a terrifying vision of Virtual Reality long before Oculus Rift

indirect inspiration

1962 folding cars from The Jetsons are pure fiction

1982 but folding bicycles have been around for a few decades

1989 everything from Back to the Future II

what will you create today to inspire future designers?

design the future with us
Science, technology, and society – past and future

• Introduction to radical technological and social changes over the past 100 years

• Introduction to science fiction and fictional design as inspiration for scientists and engineers

• Short presentation format, followed by discussion
  • Introduces students to faculty
  • Primes students for imagining the future
What does a visit to the doctor look like in the future?

What does sharing look like in the future?

What does a state fair look like in the future?

How do we regulate temperature in the future?
Ahead of you is a fork in the road, but your destiny is already written in stone...

• If you chose to see the step by step process, go to slide 16.

• If you chose the experiential path, go to slide 24.
Low-fi prototyping – Artifacts from the future
One group’s experience
PRINT A PERSON

Physical Traits
- Skin Color
- Eye Color
- Hair Color
- Hair Type
- Height
- Eye, Face, Nose, Ear Shape

Boy or Girl?

Baby Preview

Print
artifact name: Make A Printer (Printer)
design fortune: Science

ideas and notes: Create a human being where you can choose physical traits, personality, intelligence, and special abilities.

description: A printer that gives life to babies that are created by the couple that wants a kid, but can't have one. The couple is going to be able to choose: skin color, eye color, hair type, height.

instructions for use: Use your computer which has a list of all physical traits for your new baby. Here you can choose traits like height, eye color, skin color. Then you can generate your preview of your new baby. Wait 4 months to get your new baby. After the 1st month you can take it home in a pod and watch it grow.
End of day 1 – Time to relax

• Pizza, snacks, and a chance to debrief the day
The Invocation, Acted Scenes, and Group Discussion
After the Orientation Workshop

• End of workshop survey

• Follow-up 1 hr improv and feedback session midway through the semester

• Final feedback session/focus group at the end of the semester
Results

• Students self reported
  • Increased confidence in speaking up in classes
  • The creation of lasting friend groups
  • Thinking more deeply about science and technology within society
  • Greater interest in emerging technologies

• More results to come as we track their progress
You died... The End

• Just kidding, this Choose your own adventure only has happy endings.

• If you got here experientially...
  • Quick, one group, tell me what you artifact is and two sentences on how it works.
  • Now I’ll do a crappy job improving it...

• If you took the linear path, thank you for listening!