

Allegra W. Smith, Purdue University

DIGITAL AGE:



**a study of older adults'
user experiences with
technology**

Who I Am

BA Professional Writing, Gender Studies, Michigan State University, 2013
MA Digital Rhetoric & Professional Writing, Michigan State University, 2015
PhD Rhetoric & Composition (ABD), Purdue University, 2021



RESEARCHER

User experience (UX);
design; online writing
instruction & curriculum



EDUCATOR

Technical &
professional writing;
multimodal composing



ADVOCATE

AARP Tax-Aide
volunteer; community
engagement for elders

My Research Agenda

PEOPLE,
TECHNOLOGY,
COMMUNICATION

How do intersectional
facets of our identities
mediate our
experiences with
technology?



INTEGRATED
THREE-PART
APPROACH

Design (UX)
Documentation
Education



My Research Combines...



TECHNICAL &
PROFESSIONAL
WRITING

USER
EXPERIENCE
DESIGN

AGE STUDIES /
LIFE COURSE
WRITING

FEMINIST
RESEARCH
METHODOLOGY

Today's Agenda



DISSERTATION PROJECT OVERVIEW

EXIGENCY + RATIONALE

METHODS

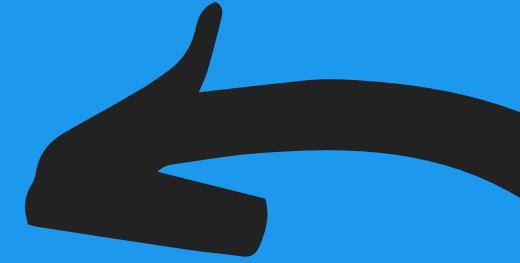
RESULTS + IMPLICATIONS

RESEARCH AGENDA + TRAJECTORY

QUESTIONS

A CHANGING POPULATION PYRAMID...

Older adults are expected to outnumber children by 2035. This year, over one billion senior citizens are alive on the planet.



BUT AN UNCHANGED RESEARCH LANDSCAPE?

Technical and professional communication (TPC) research overwhelmingly focuses on school and work, though (despite a 2004 call to attend to aging!)



Literature on Older Adults + Technology

TECH COMM

Manifestos + Calls for Action

Lippincott, 2004
Chisnell, Redish, &
Lee, 2006
O'Hara, 2004

HCI & UX

Experience Reports +
Best Practices

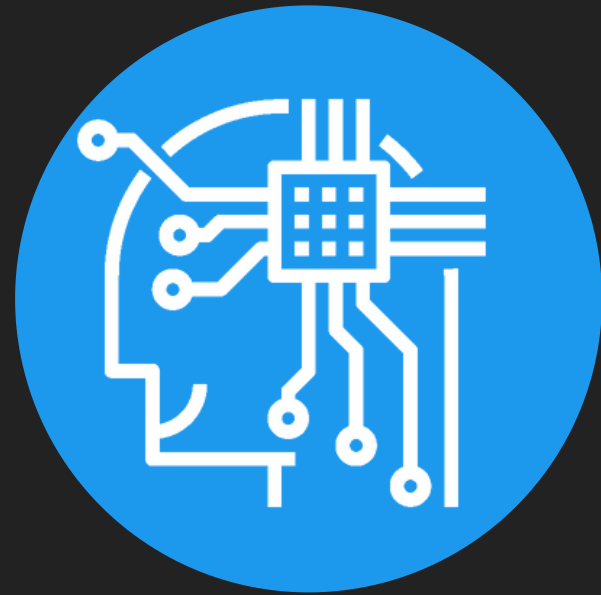
Kang & Yoon, 2008
(mp3 players)
Brajnik & Giachin,
2014 (thermostats)
Johnson & Finn, 2017;
Wilkinson & Gandhi,
2015

COMP + LITERACY

Advocacy To Value
Older Adult
Computing as
Literate Act

Bowen, 2011 & 2012
McKee & Blair, 2016
Rumsey, 2009

What's missing?



Users are
depersonalized: the
human element of HCI
is forgotten



No deep dives looking
at individual users or
communities of users



No work on retirement
communities as
subjects or sources of
data

Research Questions

1
→

What does "everyday" computer and internet use look like for older adults living in a residential senior community?

2
→

What are the goals and purposes for technology usage articulated by older adults in this community? What motivations shape these?

3
→

What factors (material, infrastructural, embodied, cognitive, cultural, design, etc.) help or hinder older adults from realizing their technological goals?

4
→

What recommendations can be generated for a more inclusive experience architecture, given this age cohort's experiences and reflections on technology:?

Methods



1: SEMI-STRUCTURED INTERVIEWS

Answering questions about computing skills, learning, problems

15 participants, 7–30 minutes

2: NATURALISTIC (UNSTRUCTURED) OBSERVATIONS

Walking through "everyday" computer use while "thinking aloud"

7 participants, 10–40 minutes

3. STRUCTURED TASK ANALYSES

Completing a series of tasks to identify pain points

6 participants, 15–45 minutes

YAHOO

701 First Avenue

Sunnyvale, CA 94089

February 18, 2015

Attn: Communications Director

Dear Sirs:

I am seeing RED. After 3 days of trying to change my e-mail with your organization with no success I am appealing to Corporate to solve my problem.

I recently moved to a senior independent living apartment from my home. I no longer am able to use my former e-mail (djw1492@comcast.net) as they do not service this place for free. My new e-mail is djw1492@aol.com. I have a very "DUMB" phone that does not accept text messages as I have had problems with bad calls so as a result your security won't allow me to make the necessary change in my e-mail. At 83 years old, I am quite able to talk with a representative which now is impossible. Of all the doctors, lawyers, companies, hospitals, and etc. you are the only company that is so unreachable by "DUMB" phone. Please help me to resolve this problem as soon as possible as I would like to participate in your services before I die. Computers are fine but sometimes a person that "talks" is important. Sincerely,

Joris L. Woodward (Highsuprano10)

490 Killingsworth Way, #340

The Villages, FL 32162-2173

DUMB PHONE #352-638-3646 No service on text)

home phone 352-674-3882

Just fix it and let me know, P.S. I am on FACEBOOK if security really wants photo ID



PERSONAL CONNECTIONS & EXIGENCY

Spring Break visits with
Grandma and the "red
letter"



Research Site

THE VILLAGES, A CENTRAL
FLORIDA RETIREMENT
COMMUNITY

The United States' fastest growing city

Population has doubled since 2010
(51,000 to 114,000 residents)

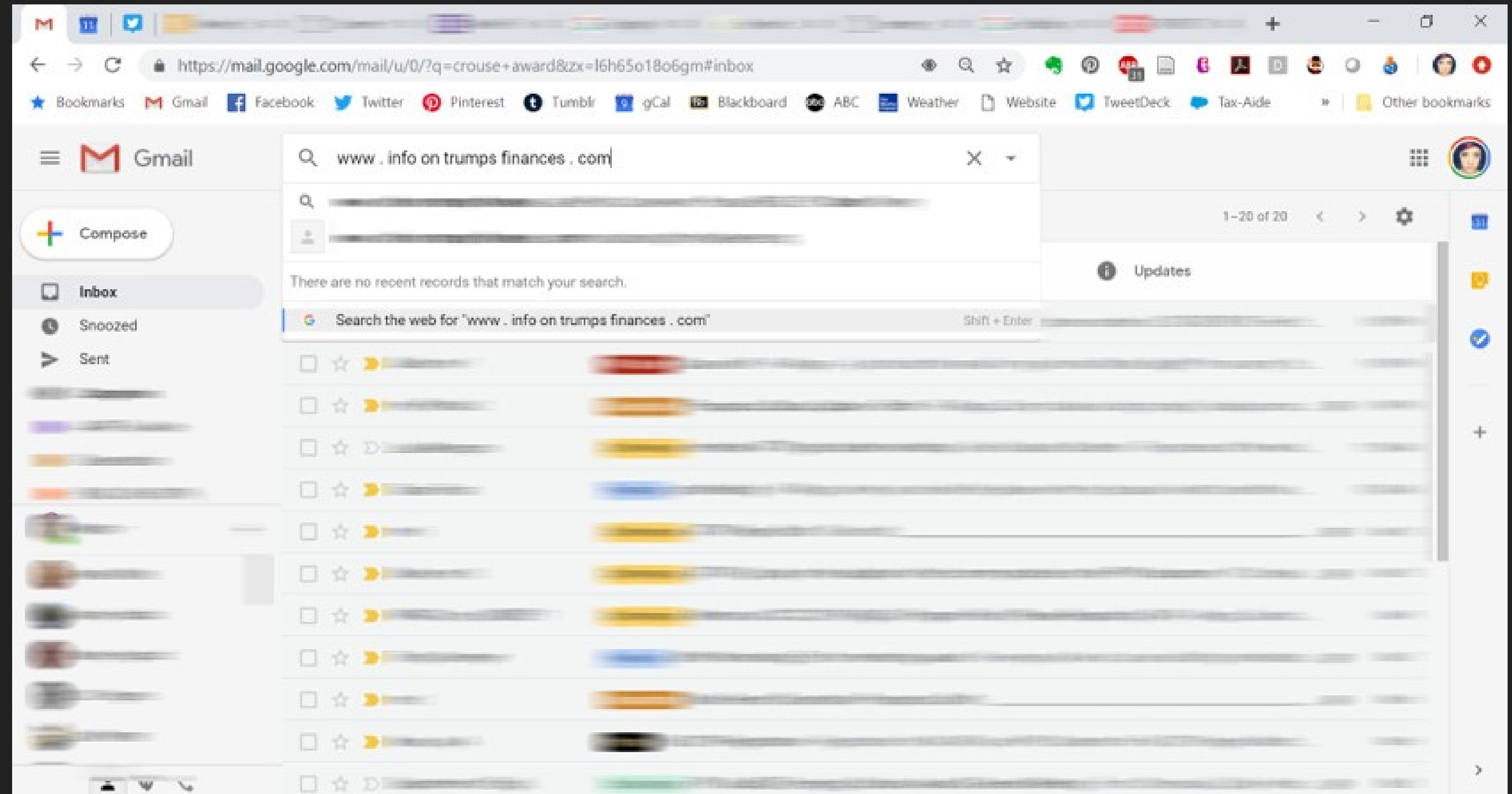
Median community age of 67.4 (research
sample median age was 82.2)



ILLUSTRATING RESULTS

Through participant Holly's structured task user experience

Search Strategy



Holly's User Journey



CLICK FIRST RESULT

[AD] Tax
Deductible Medical
Expenses | Search &
Find Quick Results

SPONSORED RESULTS APPEAR

For the same query
on a different site,
Information Vine
(potentially
dangerous paid
search provider)

SCAN RESULTS, SELECT OPTION

[AD] Medical
Expense Tax
Deductions – Find
Your Answer Today

NEW SEARCH RESULTS APPEAR

Advertisement links
to ask.com's results
for the same query;
lather, rinse, repeat.

Holly's User Journey

Information Vine

deduct medical expenses from taxes driving to doctors appointments

Did you mean: [deduct medical expenses from taxes driving to doctor's appointments](#) ?

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[E-File Your Taxes Today](#)

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SEARCHES

[Tax Deductible Medical Expenses](#)

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IMPLICATIONS

SO WHAT CAN WE DO ABOUT THIS?



1. Revalue older adults' technology engagement as literate activity
2. Intervene through design, documentation, and instruction
3. Give back to older adults in our regions and communities
4. Incorporate age and aging into the technology design process, considering users different from ourselves

Carliner's (2000) Info Design Dimensions



PHYSICAL

Helping users FIND
information



COGNITIVE

Helping users
UNDERSTAND information



AFFECTIVE

Motivating users to
PERFORM

CONSIDERATIONS SHAPING OLDER ADULTS' UX

1. Embodied / Material
2. Cognitive / Psychological
3. Educational
4. Generational / Cultural

Embodied & Material Dimensions

OPTICAL-VISUAL

Presbyopia, cataracts (make reading small text difficult)

AUDITORY

Reduced hearing capacity

MOTOR SKILLS & CONTROL

Touch screen interfaces often preferred; trackpads or mice difficult to use

MOBILITY

DEXTERITY & FLEXIBILITY

ADDRESSING THESE
DIMENSIONS IN DESIGN
INCREASES THE PRODUCTIVITY
& SATISFACTION OF ALL USERS
(UNIVERSAL DESIGN)

Cognitive & Psychological Dimensions

COGNITION

Memory, attention, decision-making
decrease as age increases

MENTAL FLEXIBILITY

SORTING & FILTERING

Ability to disregard perceptual information
that's unrelated to the user's goal

ADDRESSING THESE
DIMENSIONS IN DESIGN
INCREASES THE PRODUCTIVITY
& SATISFACTION OF ALL USERS
(UNIVERSAL DESIGN)

I took a night course [in computers] at the high school with a friend of mine, and we were the oldest ones in the class. When they asked our age, we laughed... and that was a very basic course.

MINNIE, 86 YEARS OLD

I didn't work for 25 years [after having children]. The school system asked me to come back, and they had computers. And without the secretary at another elementary school, who helped me out considerably, I wouldn't have had a clue... because it just never entered my lifestyle! Typewriting and all, but not a computer.

HOLLY, 80 YEARS OLD

Cultural / Generational Dimensions



CURRICULUM OF AGING

The set of assumptions about what it means to be old or growing old in a society: in the US now, linked to bodily disrepair, supposed incompetence or inability to learn new technology, etc.



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Home phone 352-674-3882

Or Just fix it and let me know, PS I am on FACEBOOK if security really wants photo ID

CULTURAL / GENERATIONAL

Single "points of
access" for displaying
content or achieving
user goals

CULTURAL / GENERATIONAL

Security Questions.

Select three security questions below. These questions will help us verify your identity should you forget your password.

Security Question

What was the name of your first pet?



Answer

Security Question

What is your dream job?



Answer

Security Question

In what city did your parents meet?



Answer

Language & Identification

"The" computer or "my" computer?



INDEFINITE ARTICLES

Allegra: 9 (30%)
Participants: 52 (75%)



POSSESSIVE DETERMINERS

Allegra: 21 (70%)
Participants: 17 (25%)



MEANING?

Obtrusiveness is a key
factor shaping technology
perceptions and adoption
for older adults!

Working with Older Adults (Methodological Considerations)



GIVE DOUBLE TIME

Budget extra time into
your interview,
observation, interaction
sessions



STORIES ARE GENERATIVE

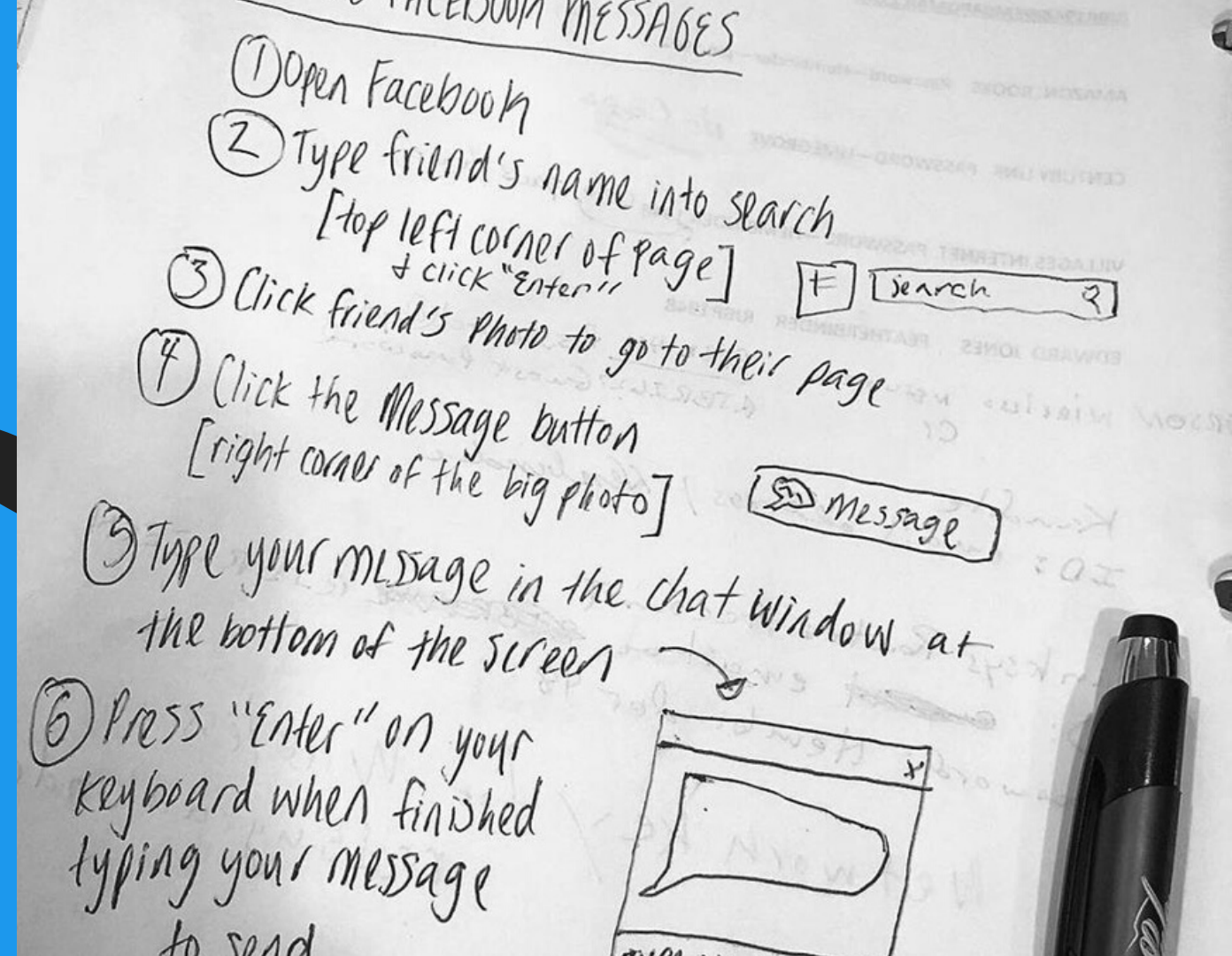
Listen to tangents; map
the experiences,
motivations, and
cultural logics that
underlie them



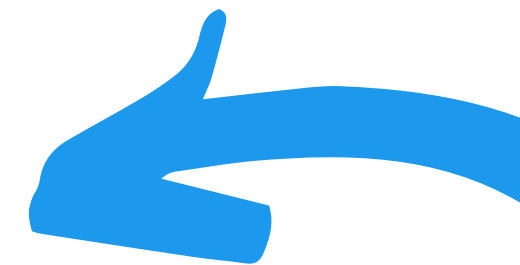
DO CONTEXTUAL INQUIRY

Meet participants
where they're at
(literally and
figuratively)

RECIPROCITY & GIVING BACK



PROVIDING TECH SUPPORT & LO-FI DOCUMENTATION



Research Agenda

DISSERTATION / OLDER ADULTS




SEARCH / INFO LITERACY

Article in Technical
Communication (for
scholars and
practitioners)



RHETORIC OF HEALTH & MEDICINE

Patient experience
design (PxD)
interventions made by
older adults



STUDENT USER JOURNEYS

TPC program/curriculum
development

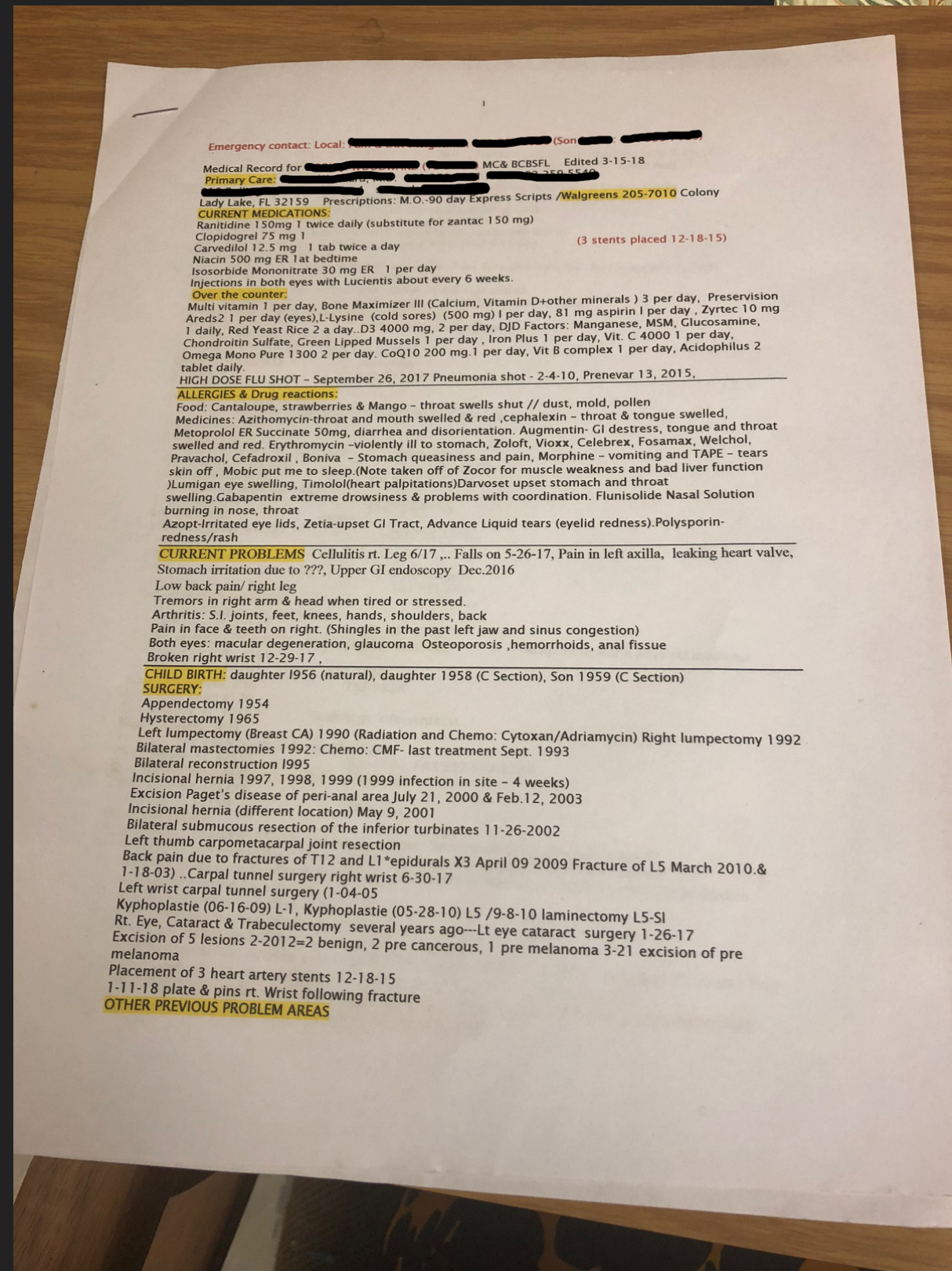


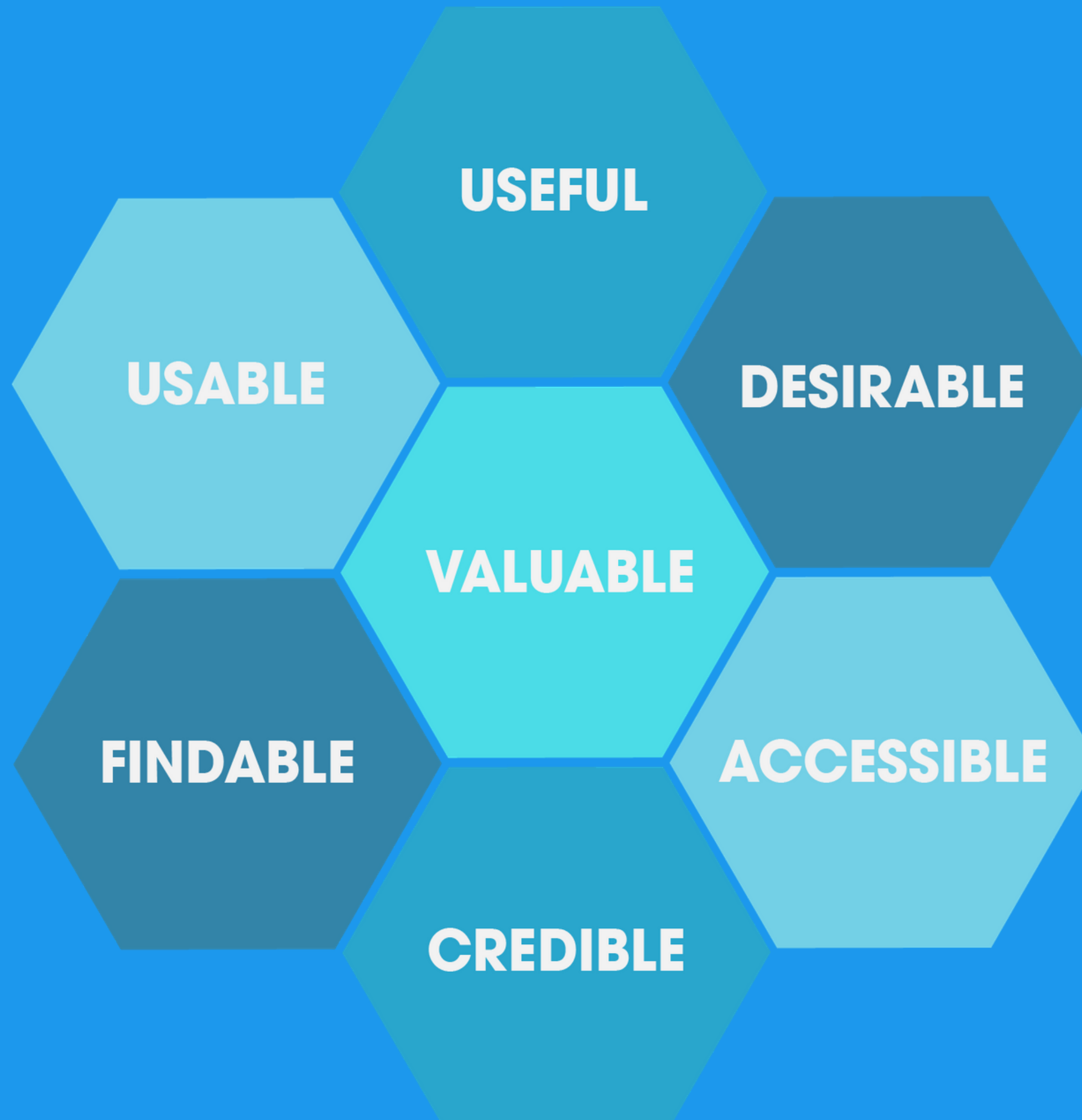
SOCIAL ENTERPRISE

JBTC article on business
writing class grounded
in social justice

LEARNER EXPERIENCE DESIGN

OLDER ADULTS AND MEDICAL WRITING





PROGRAMMATIC AND CURRICULAR DESIGN

Applying methods and frameworks like the UX honeycomb (Morville) to the design of academic programs, services, experiences, and supports by prioritizing user narratives and journeys

The Next Five Years →



2021–22

Older adult +
technology journal
articles

Initial IRB and pilot
work on TPC
student study

2022–23

Dissertation
monograph
(ATTW series?):
older adult user
personas

CPTSC/ATTW grant
for student study

2023–24

Preliminary result
article(s) from TPC
student study

Fan studies
retrospective article
(20 years)

2024–25

Feminist research
methodology
special issue or
webtext article

Long-term result
article(s) from TPC
student study

QUESTIONS?

Allegra W. Smith
allegra.w.smith@gmail.com



**Thank you
for
listening!**