Turning the Page
Introducing: A Behavior Change Toolkit for Reducing Paper Use
Portland Community College – Rock Creek
What we do

Mission:
Help organizations design and implement programs and campaigns that are more effective at promoting environmental action
Who we work with

- Seabird Protection Network
- University of California Carbon Neutrality Initiative
- Surfrider Foundation
- The Marine Mammal Center
- AASHE (The Association for the Advancement of Sustainability in Higher Education)
Webinar Goals

• Discuss what behavior design is & why it matters for higher education institutions

• Share our process and some examples from the Turning the Page on Campus Paper Use Program

• Introduce you to the Turning the Page Toolkit and how you can use it to initiate and implement behavior-based paper reduction campaigns (and other sustainability campaigns) on your campus
Why focus on paper and printing?

• Have significant impacts for campuses and environment

• Paper/pulp = Air and water pollution, deforestation, human rights abuses,

• Campuses use large #s of paper, ink, individual desktop printers
  • Millions of sheets of paper per campus, per year!

• Significant cost to universities
  • paper storage, and transport, recycling toner cartridges, lost documents, printer maintenance and support, etc.
  • Hundreds of thousands to millions $$$!
Why behavior change?

- Individual behavior at play
  - Student prints coursework that can be done online
  - Staff print an email or meeting agenda
  - Faculty print lecture slides

- Setting policies
  - Restricting desktop printers
  - Requiring certain documents be printed

- Decisions to pursue and adopt technologies:
  - Using print management software

All comes back to individual behavior and decisions!
What is Behavior Design?

Evidence Based Process to Encourage Behavior Change

- Cognitive Science
- Conservation Psychology
- Behavioral Economics
- Social Marketing
- Design Thinking
Why Behavior Design?

Awareness ≠ Environmental Change

Information is insufficient (and can even backfire)

We haven’t always used resources most efficiently

MANY other barriers to and motivators of behavior
Why Behavior Design

Failed Campaigns

Anti-Drug Campaigns (‘98-'04)

• Spent $$$ - mass media campaign
• Backfire effects
  • Ad exposure → belief marijuana use was prevalent (norm) → more likely to start using drugs

Social norms > awareness of negative consequences
Turning the Page on Campus Paper Use

Coach ~10 campuses in U.S. and Canada through our process for developing a behavior-based paper reduction campaign

- Training at AASHE conference
- Monthly webinars
- Sharing and troubleshooting calls
- 1-1 coaching
POLL: What kinds of paper reduction initiatives have you tried on your campus? (Select all that apply)

a) Removing desktop printers
b) Installing print management software
c) Overall paper reduction
d) Reduction of specific sources of paper (syllabi, marketing flyers, etc.)
e) None yet - but that’s why I’m here!
f) Other
Cohort 1: Audiences and behaviors

• Replacing desktop printers with networked printers (MFD/MFP)

• Faculty/students using online learning platforms (Canvas, etc.) instead of printing

• Moving promotional materials online
Cohort 2: Desktop printer reduction

• Focus on desktop printer relinquishment / moving to networked printers
  • Huge potential for positive environmental and financial impacts
  • → Up to 40% cost savings!
PART 1: SELECTING AND STUDYING THE AUDIENCE AND BEHAVIOR

Choosing your target audience and behavior
• Determine potential target audiences
• Identify distinct, outcome-producing, paper-saving behaviors
• Evaluate potential paper-saving behaviors

Uncovering the barriers and motivators of audience behavior
• Identify barriers and drivers of behavior

PART 2: USING BEHAVIORAL BUILDING BLOCKS™ TO ACHIEVE PAPER SAVINGS

• Choose & design the interventions
  • 10 Building Blocks of Behavior Change

PART 3: CAMPUS CASE STUDIES

• Berkeley Haas, Portland Community College, Red River College, Fort Lewis College, University of Iowa
POLL: Who is (or would be) your target audience for your paper-saving campaign? (Select all that apply)

a) Students
b) Faculty
c) Staff
d) Other: Campus visitors?
## Determine Target Audience Worksheet

**Potential target audiences**

<table>
<thead>
<tr>
<th>Contribution to the problem?</th>
<th>Unreceptive or difficult to work with?</th>
<th>Most receptive and willing to engage?</th>
<th>Fit for pilot program?</th>
</tr>
</thead>
</table>

### GOAL: Determine the Target Audience

Answer the following questions to help identify your target audience:

1. Who are all the groups of people at your organization that contribute to the problem?

2. To what degree do these audiences contribute to the problem?

3. Are any of these audiences unlikely to be receptive to a campaign at this time?

4. On the other hand, which audiences do you think would be most willing to engage with you? Are there certain audiences that have successfully engaged in past behavior change efforts?

5. Does one audience stand out as a preferred option for a “pilot” program to test run your initiative and demonstrate success?

Now write down at least three target audiences that you could work with for on a campaign:

1. 

2. 

3. 

Stakeholders: For each target audience you’ve brainstormed, also list who the relevant “stakeholders” are that might need to be involved in the project, either at the beginning, middle, or end.
Brainstorm Behaviors

Brainstorm actions that – if taken – would help you reach your goal

Reminder:

• Goals are not behaviors

• “Is aware of,” “understands,” “cares about,” and “believes in” are not behaviors
## Categories of Paper-Saving Behaviors

<table>
<thead>
<tr>
<th>Category</th>
<th>Actions</th>
</tr>
</thead>
</table>
| **Choose electronic alternatives** | • Use electronic signatures  
• Conduct paperless meetings                                            |
| **Say “no” to paper**              | • Unsubscribe from paper mailing lists  
• Ask people to NOT print documents for you                             |
| **Print less**                     | • Print only one copy of flyers and ask people to take a picture instead  
• Print letterhead and envelopes on an as-needed basis only              |
| **Slow down**                      | • Preview and edit documents before printing  
• Ask yourself, “Do I need to print this?”                               |
| **Change printing systems**        | • Set up default double-sided printing  
• Switch from individual desktop printers to multifunction printers       |
| **Change purchasing habits and policies** | • Enact a policy that no new desktop printers can be purchased  
• Centralize purchasing to eliminate unnecessary paper and printer purchases |
Evaluating Priority Behaviors Worksheet

- **Impact**
  - Level of impact, Saturation
- **Likelihood of success**
  - Probability of adoption?
  - Controversial?
  - Past success
  - Level of organizational effort required
- **Future impact**
  - Potential to scale? Proof of concept?
- **Evaluation**
  - Ability to observe behavior?
  - Ability to collect data and evaluate success?
PCC – Audience & Behavior Selection
Uncovering audience’s barriers and motivators of behavior

Each step leading to the **outcome-producing behavior** has its own barriers we will need to address!

- **Read email about using MFPs and transitioning from desktop printer**
- **Sign up to attend meeting to learn more about print management and MFPs**
- **Attend meeting**
- **Connect to the shared MFP**
- **Disconnect desktop printer**
POLL: What has been (or do you think will be) the biggest barrier for your paper reduction initiatives? (Pick one)

a) People don’t think paper is an important issue
b) People don’t know how to save paper
c) People are too busy to save paper
d) People don’t think it is their responsibility to save paper
e) People have trouble remembering to save paper
Why a Determinants Analysis?

• Evidence-based tool to reveal what is motivating or deterring our audience
  • *From the audience’s perspective*

• Cannot assume we know why behaviors are / are not performed

Brainstorm: What are some potential barriers to and benefits of desktop printer removal?
Common Drivers of Environmental Behavior

- BENEFITS / POSITIVE ATTRIBUTES
- NEGATIVE ATTRIBUTES
- SUSCEPTIBILITY
- IMPORTANCE / SEVERITY
- ACTION EFFICACY
- ABILITY/SELF-EFFICACY
- SOCIAL NORMS & ACCEPTABILITY
- ACCESS & RESOURCES
- RESPONSIBILITY
- MEMORY & CUES FOR ACTION
- IDEOLOGIES & VALUES
- PERSONALITY TRAITS
Perceived Negative Consequences/Attributes

The negative things a person thinks will happen (or has experienced) as a result of performing the behavior

• “I dislike having to walk to the printer.”
• “I prefer to read documents on paper because staring at the computer hurts my eyes.”
• “The shared printer always breaks down.”
Perceived Benefits

Perception that something positive may (or will) happen as a result of performing the behavior.

What are the positive reasons to act? What are the negative things caused by inaction?

- “I like getting exercise by walking to the shared printer.”
- “I feel good knowing I am saving trees when I use less paper.”
- “Using a multifunction printer saves me time.”
Perceived Susceptibility

Perception that the problem impacts them or people they care about (or could in the future)

• “I am not directly impacted by deforestation.”
• “Printing contributes to climate change, which impacts us all.”

Perceived Severity and Importance

Perception of how serious the problem is compared to other issues

• “The university should be worrying about things bigger than paper.”
Perceived Ability and Self-Efficacy

Perception that a person can identify the appropriate course of action and has the knowledge, skills, and judgement to succeed at the action.

- “I don’t know how to use the multifunction printer.”
- “I am confident in my ability to use online learning platforms to teach my courses.”
Memory / Cues for Action

Inability to remember to perform a behavior (or the steps involved in the behavior). The person may have the skills and know how, but simply cannot remember to do the behavior, or cannot remember the steps involved.

- “I always forget to print double-sided.”
- “I never remember to put scrap paper in the multifunction printer.”
Perceived Action Efficacy

Perception that the behavior will solve or mitigate the problem. If I do act, how much of a difference will it make?

- "Me printing double-sided isn’t going to make a big impact."
- "Giving up my desktop printer will have a big environmental impact."

Perceived Responsibility

Perception that it is a person’s responsibility to address the problem.

- "I see paper reduction as my responsibility, because it is the right thing to do."
- "It’s not my responsibility to make sure the shared printer is working."
Perceived Access & Resources

Perception that the person has the access and resources (services, products, time, money) required to adopt the behavior.

- “I don’t have time to set up my course online.”
- “I am satisfied with the level of support I receive from IT when I need help with the shared printer.”
Perceived Social Acceptability

Perception that the action is performed and/or accepted by one’s social reference network (peers or others whose opinion matters to them).

• “People will think I am unprofessional if I print on scrap paper.”
• “Most of my colleagues do not have desktop printers, so it would be weird if I had one.”
Perceived Alignment with Ideologies and Values

Perception that the behavior aligns (or doesn’t align) with the person’s values, political identity, or their views on religion and divine will.

- “As an environmentalist, I strongly believe in reducing paper use.”
- “I don’t believe the university should try to influence anyone’s behavior. The bureaucracy is too big.”

*We can tap into these existing ideologies and values, but changing them requires much longer-term interventions*
Behavior Sequence + Determinants Worksheet

• What are some steps in the sequence leading to the outcome-producing behavior you want to promote?

• What are some potential deterrents to and drivers of those behaviors?
PCC Determinants Analysis

Staff and Faculty, N=102

Barriers to print reduction

- Perceived expense
- Confidentiality
- Don’t know about secure printing
PCC Determinants Analysis

Benefits

• Health
  • “It makes me get up from my desk and walk”

• Sustainability
  • “It’s more environmentally sustainable than a personal printer.”

• Efficiency

• Prospect of donating used printer
Determinants to Interventions

- Interventions should amplify benefits and reduce barriers of the desired behavior
  - (and reduce the benefits and increase the barriers of the undesirable behavior!)

- Match drivers/determinants to most relevant interventions
  - “Determinants-to-Interventions” Roadmap
Utilize BENEFITS

Use benefits (incentives) and/or disincentives to kickstart change

- Incentivizing behaviors vs. outcomes
- Intrinsic motivators
  - Competence, personal growth, progress, autonomy
- Vs. Extrinsic rewards
  - Financial, tangible, reputational, competition
Make it EASY

Bridge the gap between intention and action by making the desired behavior as easy as possible

• Convenience
• Supportive environment and infrastructure
• Reduce steps, information
• Choice architecture
  • Defaults
• Erect barriers to undesirable behaviors

To make your document’s margins smaller, click on the Margins icon under the Page Layout tab. Then choose the option Narrow.

If you want to make this your default setting, click on Custom Margins and then choose Set As Default.
Panther Print Program
Rock Creek Q&A

Haas students conserve paper.

1. Think to yourself: Do I need to print this?
2. If yes → check the back of this card for tips on how to use less paper & ink!

- Print double-sided & in black & white
- Reformat: Use smaller margins, fonts & styles
- Use eco fonts like Century Gothic and Garamond
- Double check before printing - Use print preview
- Print multiple slides/pages per page
Emphasize HOPEFULNESS

Replace paralyzing “doom and gloom” messages with action-inspiring positive messages

• Highlight solutions and positive impacts
• Cultivate conditions for increased self-efficacy
• Make it a collective endeavor
  • Green Teams
• Demonstrate and celebrate progress and momentum
Frame for the appropriate ASSOCIATIONS

Frame messages to speak to your audience’s mental models and values

- Leverage cognitive biases
  - Loss aversion – “Don’t lose precious time! Go digital and never lose a piece of paper again!”
- Frame around mental models
  - Emphasize cost savings vs. environmental benefits
- Use metaphors for the big picture
  - “Forests are air purifiers”
- Change frames over time
  - don’t repeat the negative
Design it to be VIVID

Overcome informational overload by capturing attention with the unexpected

• Make the desired behavior obvious
• Prompt people at the point of behavior
  • At the computer, at the desk, at the printer/copier
• Make the problem stand out
  • Use relatable metrics
  • Physically show the problem through real-world displays
ABOUT TO PRINT?

PLEASE

CHECK THE PREVIEW FIRST!

THANK YOU FOR SAVING PAPER

DID YOU KNOW?
The amount of paper Haas students use in one school year weighs as much as 13 grizzly bears

PRINT LESS. WIN PRIZES.
Visit HTTPS://HBSASUSTAINABILITY.WIXSITE.COM/PAPER

Environmental impact estimates were made using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit www.papercalculator.org.

"SAY TREES!"
Take a picture, save a flyer!
Encourage Consistent IDENTITY

Leverage the human desire for consistency to motivate positive action

- Draw on the appropriate identity
  - Positive identity statements
- Set and meet goals with implementation intentions
- Plan a powerful pledge
  - Specific, realistic, written, public
  - Use reminders and feedback
- Help your audience move up the ladder of engagement
What you got printing there?

Did you choose to print double-sided?

Did you try to reformat your document to print fewer pages?

Do you really have to print this?

*Cal Bears are paper savers!*

(your name here)  
I pledge to take digital notes this week.

(your name here)  
I pledge to print less than 20 sheets of paper this week.

(your name here)  
I pledge to take notes without slides.
Demonstrate what is ORDINARY

Invoke the power of social norms by demonstrating that pro-environmental behaviors are “ordinary”

• Provide positive social proof
• Address misconceptions about the norm
• Call attention to society’s expectations
• Strengthen the norm through social networks

This is Tim.

Tim, like 89% of students here at Haas, support efforts to reduce paper usage!

Tim doesn't waste paper.

Be like Tim.
71% of Haas students don't print lecture slides!

ASK YOUR FRIENDS ABOUT HOW TO SAVE PAPER!
Craft it to be RELATABLE

Reduce the perceived gap between the audience and the problem to inspire action

- Relate your message to what the audience already cares about most
  - Budget, environment, efficiency, local issues, health
- Connect to personal experiences
- Focus on individuals to foster empathy
- Choose appropriate messengers
- Make the call to action personal

SPARK MORE JOY!
CUT CLUTTER BY GOING PAPERLESS
Foster AWARENESS

Cultivate a mindful awareness of human thought patterns (of our audiences as well as ourselves) to better align actions with intentions and be better stewards of our planet.

- Pause with mindfulness practices
  - Prompts can help!
- Notice and overcome cognitive biases
  - Moral licensing, Status quo bias, ostrich effect, projection bias, etc.
WAIT! CAN YOU RECYCLE THAT?

- MIXED OFFICE PAPER
- CANS & SCRAP METAL
- PHONE BOOKS
- MAGAZINES & CATALOGS
- CARDBOARD
- NEWSPAPER
- MILK & JUICE CARTONS
- PLASTIC BOTTLES & JUGS

QUESTIONS ABOUT COMMINGLED RECYCLING?
Call Laura Fieselman, Environmental Sustainability Educator, at x2654.
Achieve LASTING Change

**Turn actions into long-term, pro-environmental habits**

- Capitalize on periods of change
- Build upon a tiny behavior
  - Meet people where they are; influence the first choice
- Determine the schedule of benefits
  - Variable vs. continuous, “weaning”
  - No reward at all!
- Provide feedback
  - Specific, real-time, change over time
How to be a paper saver

Pause and think: Do I really need to print this?
If yes:

- Use scrap paper for notes
- Ask your professors if you can take notes on an electronic device
- Format documents to use less paper
  - "Condensed fonts", reduce font size
  - Green fonts like Century Gothic
  - Smaller margins
  - Print multiple slides per page
- Use online tools instead of printing
- Check print preview before pressing print!
- Print only the pages you need (avoid printing blank pages or citations, appendices)
PCC – highlight early adopters, influential messengers
PCC – share positive examples
PCC – Use vivid displays
PCC – Tie to complementary efforts
<table>
<thead>
<tr>
<th>Barrier/benefit category</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEMORY</td>
<td>Remind the audience what to do and how through prompts, how-to information, skill-building, feedback, and action bundling: <strong>EASY, VIVID, LASTING</strong>.</td>
</tr>
<tr>
<td>BENEFITS</td>
<td>Highlight and amplify benefits by using <strong>any</strong> building block.</td>
</tr>
<tr>
<td>NEGATIVE ATTRIBUTES</td>
<td>Address the audience’s concerns by eliminating hassle factors and providing incentives: <strong>BENEFITS, EASY</strong>.</td>
</tr>
<tr>
<td>SUSCEPTIBILITY</td>
<td>Show the audience how the problem impacts them by making it salient, connecting to their concerns, and creating opportunities to connect with nature: <strong>VIVID, RELATABLE, AWARENESS</strong>.</td>
</tr>
<tr>
<td>SEVERITY &amp; IMPORTANCE</td>
<td>Help the audience recognize the severity of the problem by demonstrating scale and immediacy, connecting to their existing “pool of worry”, highlighting relevant personal experiences, using frames and metaphors, and creating opportunities to connect with nature: <strong>VIVID, RELATABLE, AWARENESS, ASSOCIATIONS</strong>.</td>
</tr>
<tr>
<td>ABILITY / SELF-EFFICACY</td>
<td>Boost the audience’s confidence by making it easier to do the behavior, walking them through it, showing that others have successfully done it, and using commitments that encourage positive self-perception: <strong>EASY, HOPEFUL, IDENTITY</strong>.</td>
</tr>
<tr>
<td>ACTION EFFICACY</td>
<td>Show the audience how their actions will make a difference by providing feedback, highlighting solutions, sharing positive social proof, and connecting action to impact: <strong>LASTING, HOPEFUL, VIVID, ORDINARY</strong>.</td>
</tr>
<tr>
<td>SOCIAL ACCEPTABILITY</td>
<td>Use positive social proof to show how the behavior is accepted or socially desirable, correct mistaken assumptions, and tap into group identity: <strong>ORDINARY, IDENTITY</strong>.</td>
</tr>
<tr>
<td>RESPONSIBILITY</td>
<td>Help people recognize their responsibility by tying actions to impact, tapping into relevant identities, highlighting consequences, and using framing and metaphors: <strong>VIVID, IDENTITY, BENEFITS, ASSOCIATIONS</strong>.</td>
</tr>
<tr>
<td>ACCESS &amp; RESOURCES</td>
<td>Provide greater access to resources and help people find and utilize the resources: <strong>EASY, BENEFITS</strong>.</td>
</tr>
<tr>
<td>IDEOLOGIES &amp; VALUES</td>
<td>Create opportunities for the audience to be in nature, adjust messaging to tap into the audience’s existing values and ideology, and create unifying messages across departments and issue areas, and repeat these messages often: <strong>IDENTITY, AWARENESS, ASSOCIATIONS</strong>.</td>
</tr>
</tbody>
</table>
Interventions Brainstorming Worksheet

• Brainstorm behavior-based interventions to address the barriers and amplify motivators
Combining Interventions

Most often, we use a suite of complementary interventions

Common interventions combined in campaigns:

- Prompts
- Feedback
- Norms
- Commitments
- How-to Information
Resources

Publications

• Turning the Page: A Behavior Change Toolkit for Reducing Paper Use
  • Appendix: Worksheets
  • Appendix: Steps for Designing a Competition

• Designing for Environmental Action: A Practitioner’s Guide (Book) – ’20

Additional Resources

• Case for desktop printer removal
  • with campus case studies

Desktop Printer Drivers Meta-analysis

• Meta-analysis
Thank You!
Questions?
Discussion

• What **specific behaviors** might you target / have you targeted?

• Previous **successes** using behavioral insights? What worked? What didn’t?

• **Challenges**
  • What do you think may be the barriers for your audiences?
  • Or challenge for you in implementing these practices?

• Brainstorm **intervention ideas**
Read email about using MFPs and transitioning from desktop printer

Sign up to attend meeting to learn more about print management and MFPs

Attend meeting

Connect to the shared MFP

Disconnect desktop printer