

Understanding the usability advantage or disadvantage of publishers' implementations of Seamless Access

JUDY CHEN, SEAN BAXTER, SERENA ROSENHAN, ANNA ROUBEN

Research Objective

The purpose of this study is to evaluate Seamless Access as a cumulative experience, using the implementations of four representative publishers, ACS Publications, Nature, Wiley, and Elsevier.

The goal is to assess if any implementations have a usability advantage or disadvantage for researchers, specifically on their ability to quickly and successfully identify Seamless Access when they are off their campus network.

Research Methodology

Logistics: Unmoderated, task based, First-Click study using Chalkmark from Optimal Workshop

- Users were presented with screenshots of four different SeamlessAccess implementations
- Tested the cold-state only (Access through your institution)
- Used four versions with different ordering of publisher screenshots to prevent order bias

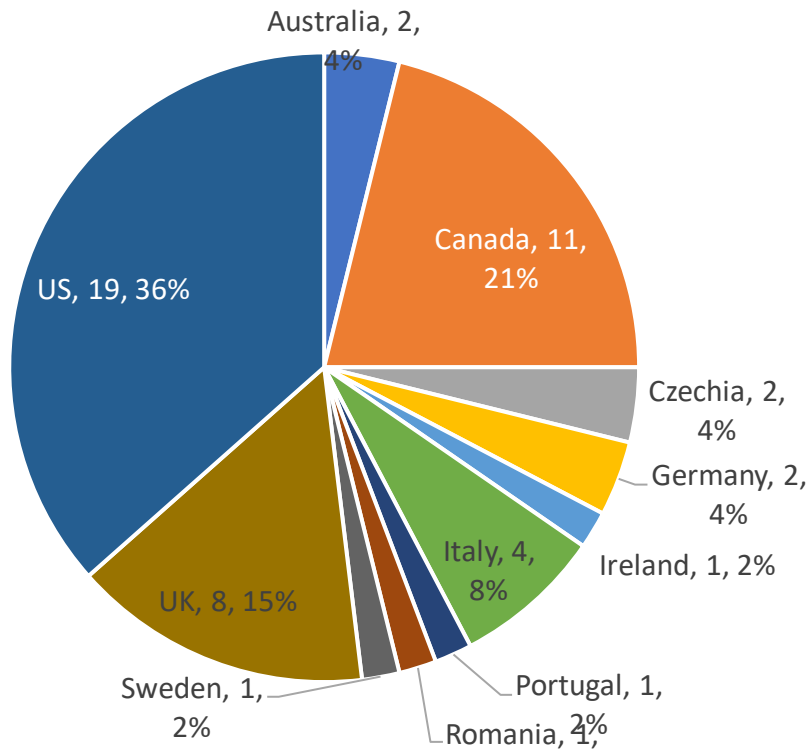
Scenario: Participants were given a scenario where they needed to read the entire article of four scholarly references. They know that their university pays for access, but they are off the campus network. They were asked where on the design page would they click? Participants were told that only their first click on the image will be collected.

Measurement: The task time from seeing the design page to the first click was recorded for each implementation. Task success and failure were also recorded. Additional qualitative and quantitative data collected from questions and recordings.

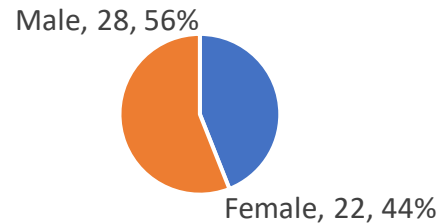
Participant Demographics

Total number of participants = 52

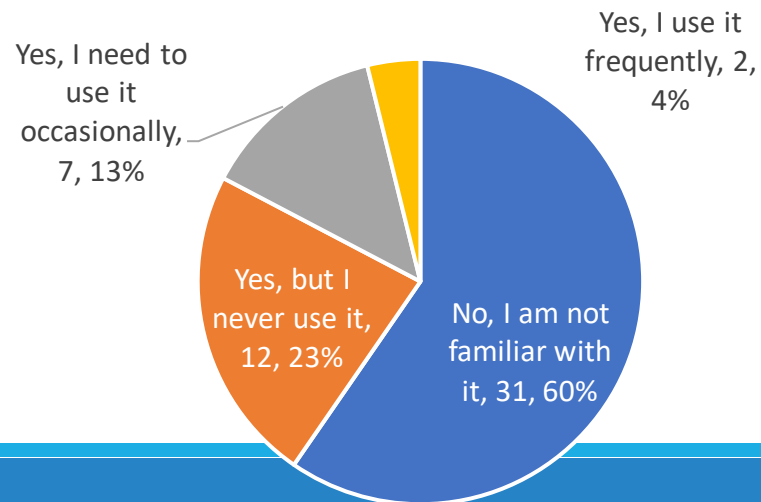
Country



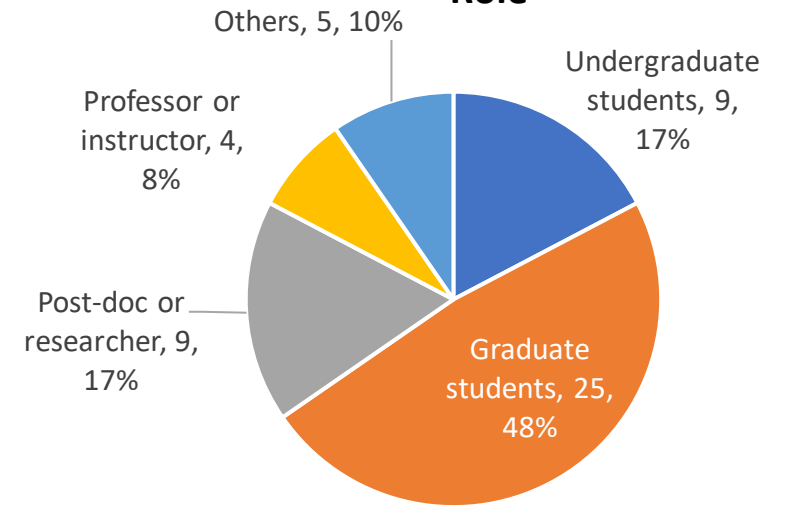
Gender



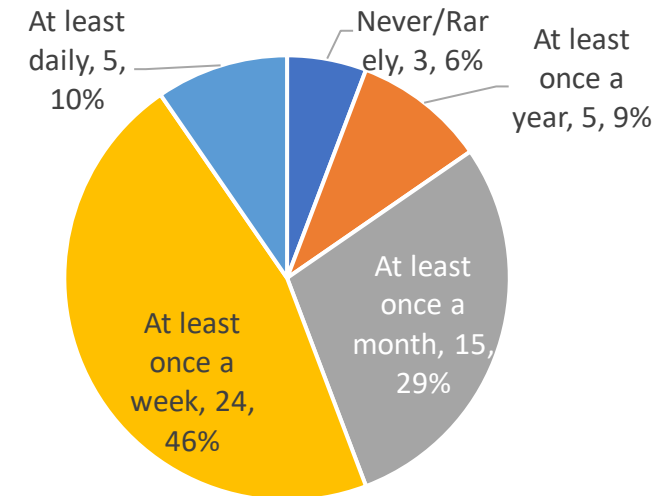
Familiarity with federated access



Role



Frequency of access off-campus

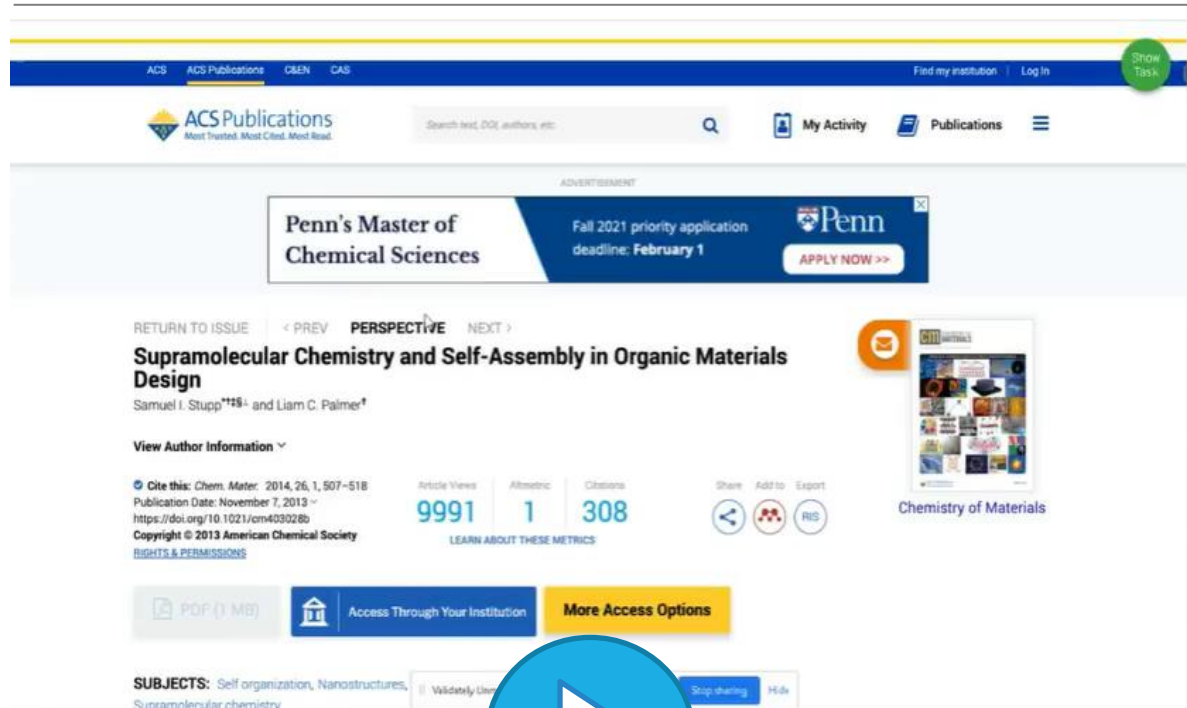


Key takeaways

- ❖ Users are offered too many access options.
- ❖ Users understand institutional access but choose other options when that access is in question.
- ❖ The PDF option competes with “Access through your institution.”
- ❖ Layered approach was disorienting for some participants, especially after recognizing the button.
- ❖ The rate of success did not increase as participants progressed through the tasks due to the variability in implementation across different publishers.

Users are offered too many access options

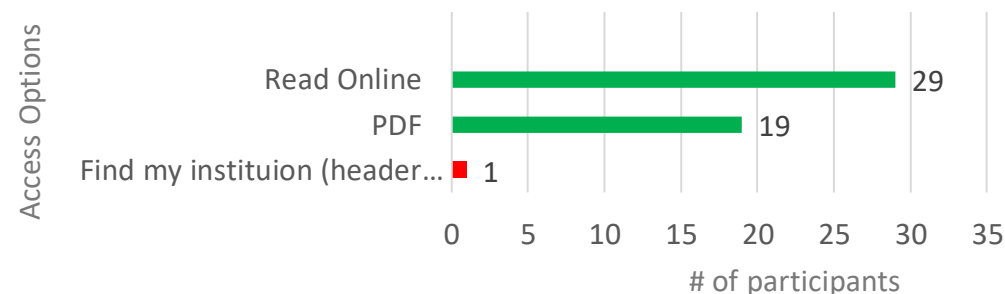
ACS Publications: 5 options



(Video description) This clip shows why participants clicked on “More Access Options” instead of “Access through your institution.”

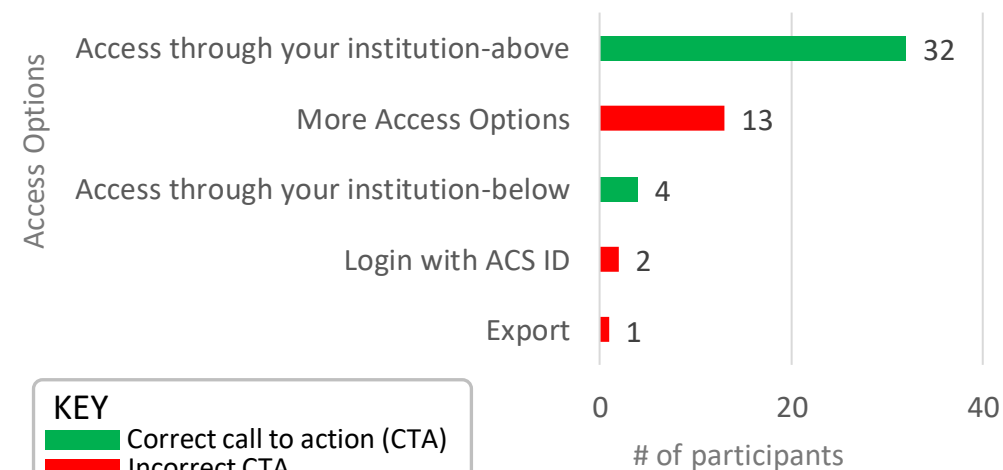
Page 1: landing page

98% success
2% fail



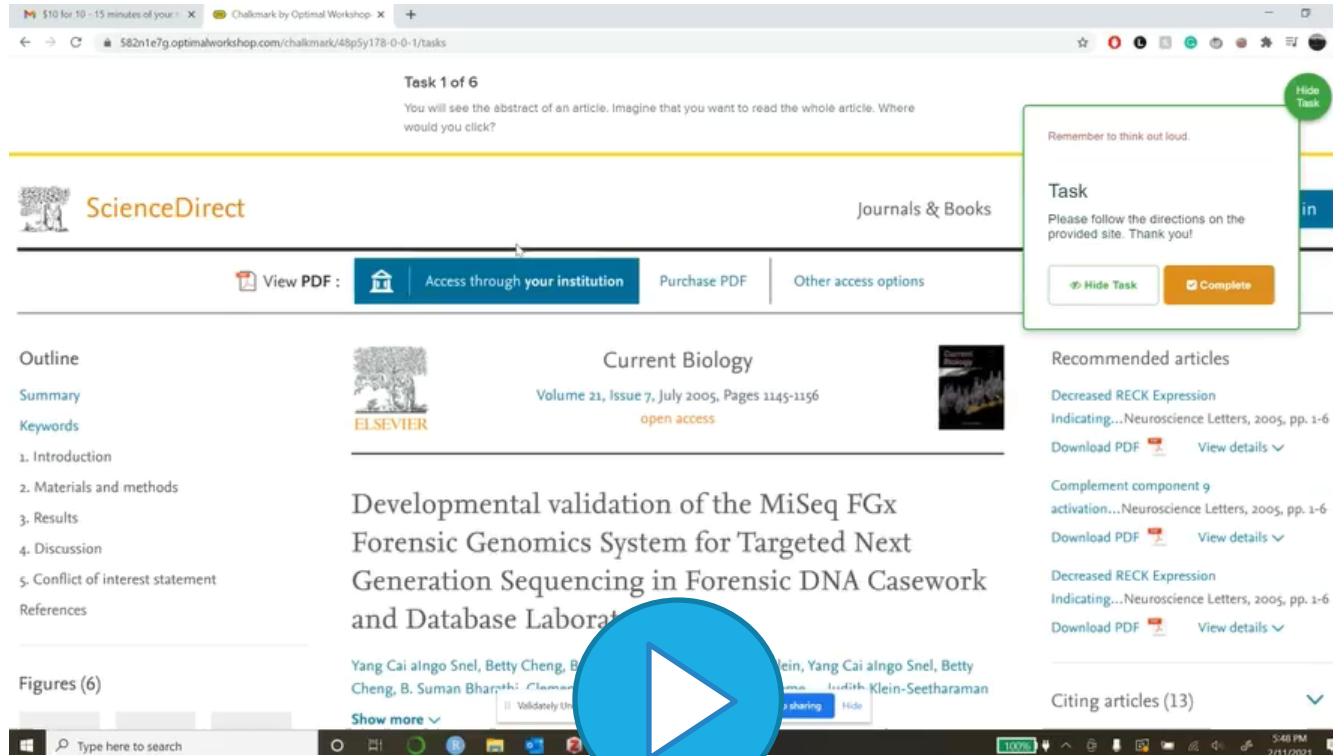
Page 2: selection page

69% success
31% fail

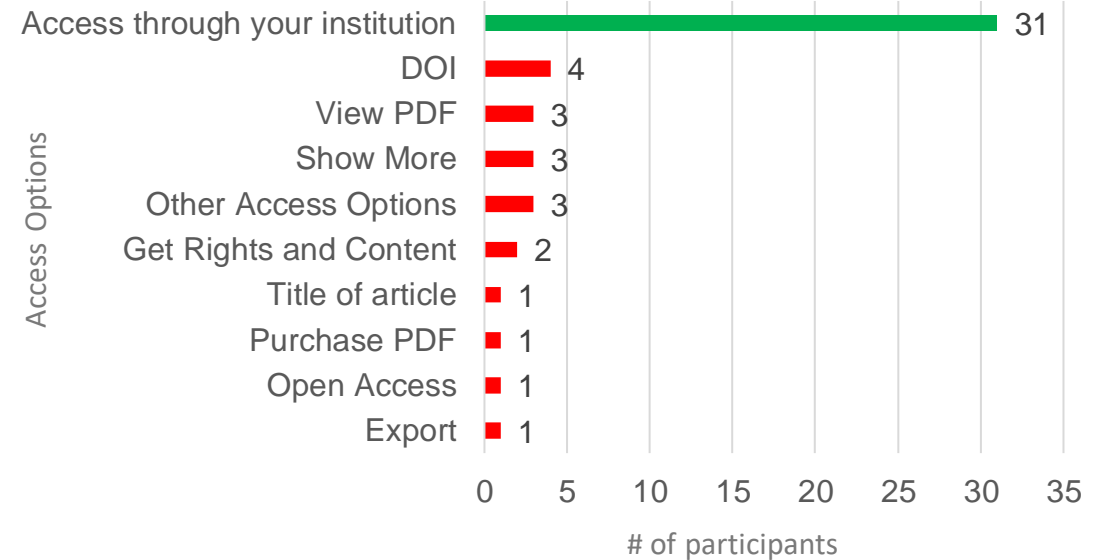


KEY
█ Correct call to action (CTA)
█ Incorrect CTA

Elsevier/ScienceDirect: 10 options



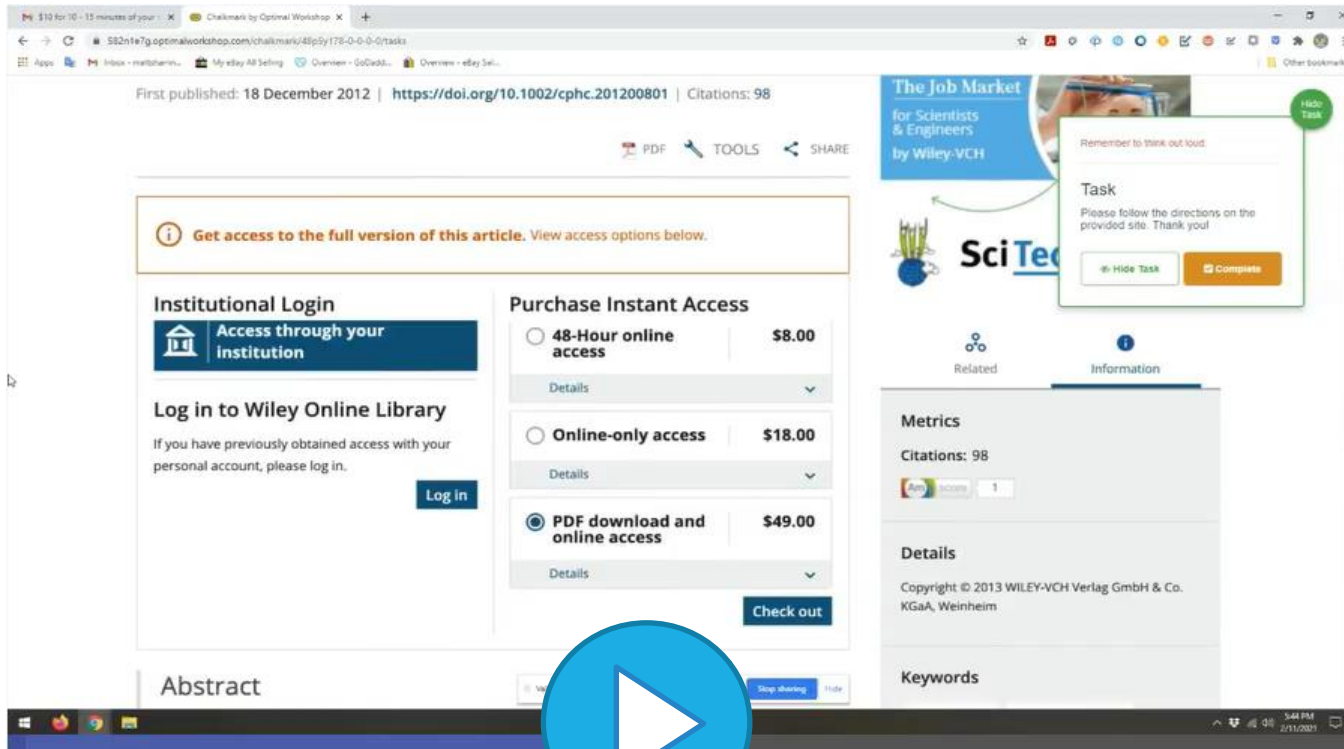
62% success
38% fail



((Video description) This clip demonstrates the number of distracting options that might lead the participant to the full-text. She expects to find this action between the title and the abstract. The graph to the right shows that participants tried many of these incorrect or less efficient choices.

KEY
█ Correct call to action (CTA)
█ Incorrect CTA

Wiley: 13 options

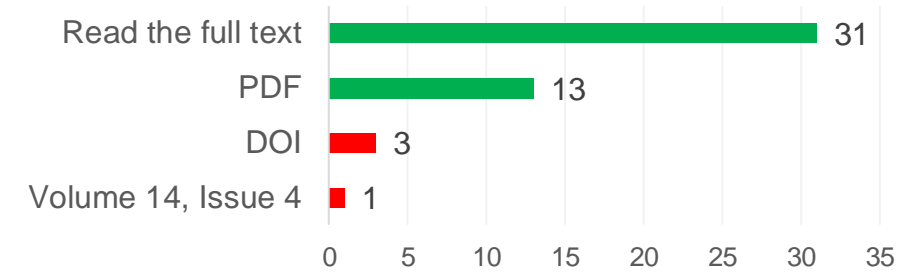


(Video description) This clip shows why participants clicked on “Log in” instead of “Access through your institution.”

Page 1: landing page

92% success

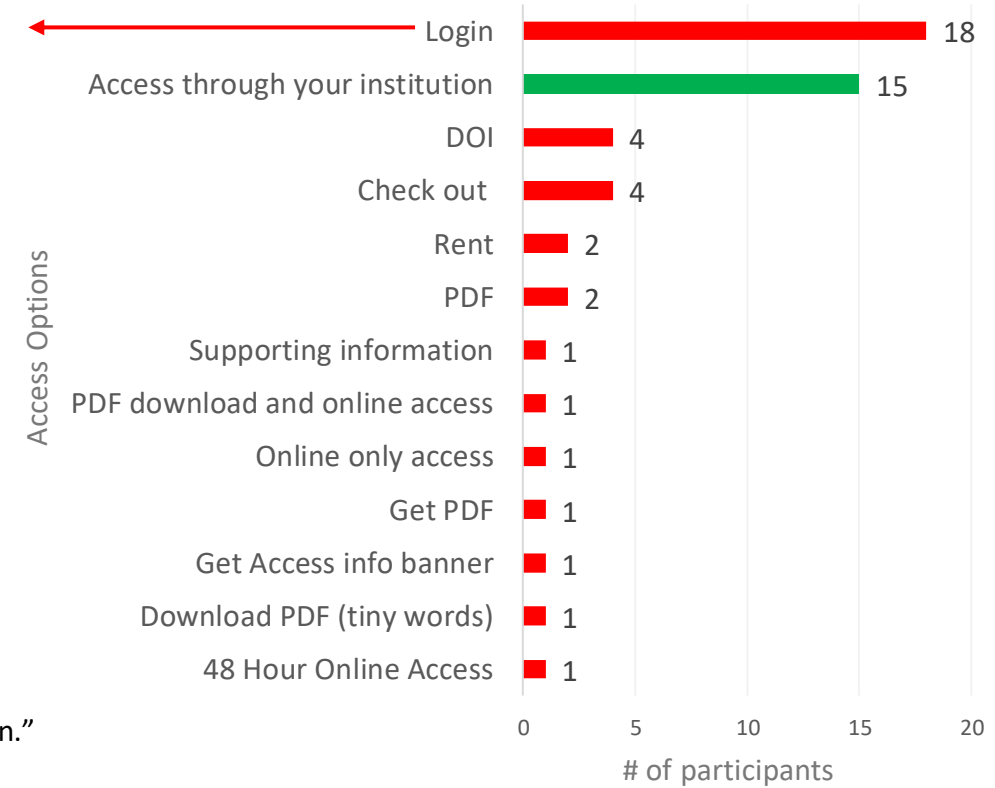
8% fail



Page 2: selection page

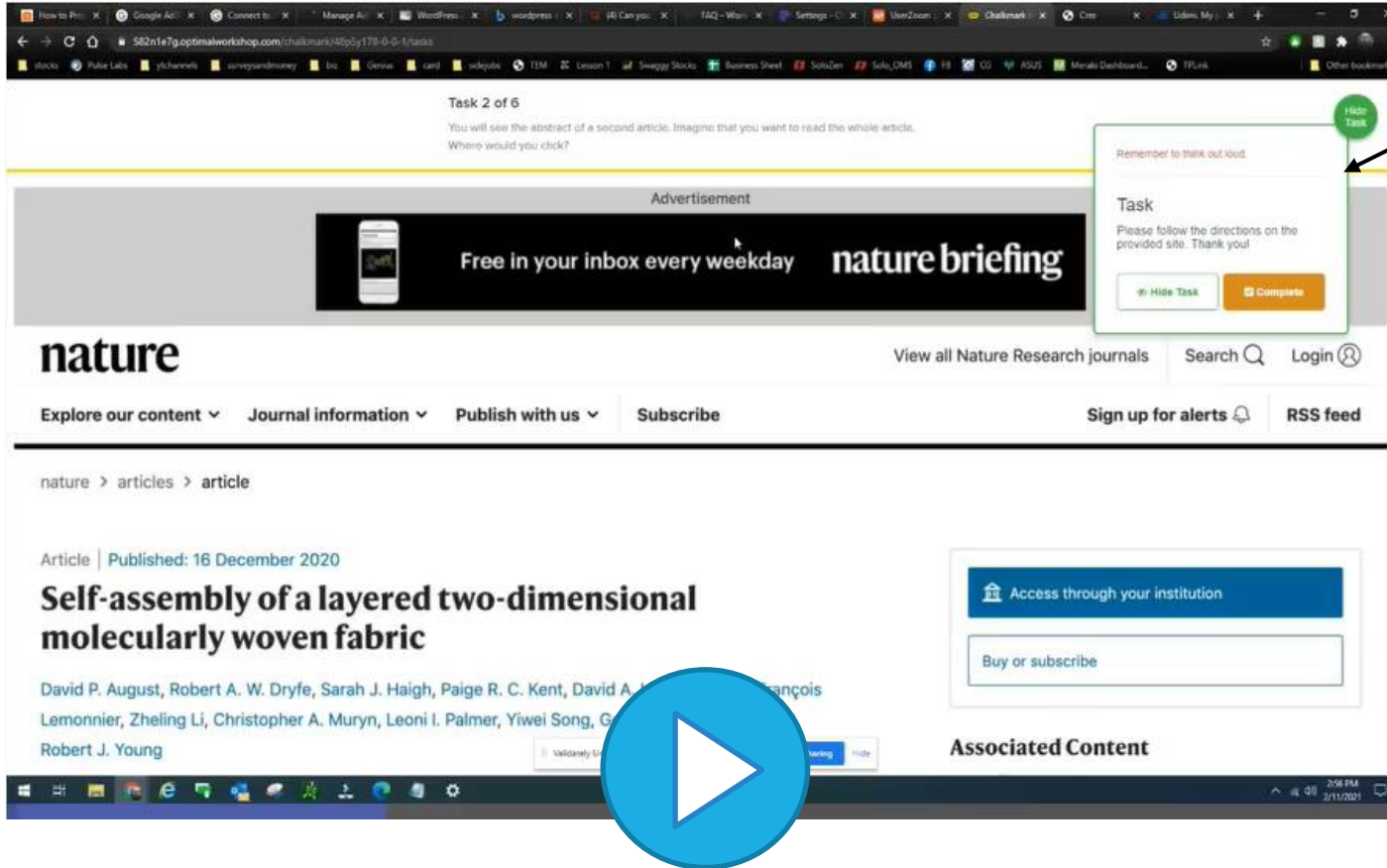
45% success

55% fail



of participants

Nature: 8 options



(Video description) This clip shows participants expected access options to be grouped together.

58% success
42% fail



KEY

- █ Correct call to action (CTA)
- █ Incorrect for the purpose of this test, but the correct CTA
- █ Incorrect CTA

Users understand institutional access (mostly)

Participants chose other options when institutional access is in question

A few participants intentionally did not select “Access through your institution” because:

- They know their institution did not provide access to the publishers being tested → clicks Purchase/Rent
- They usually access through their institution when they are on campus, and since the instruction told them they are off-campus they selected another option (PDF or purchase)
- “Access through your institution” only works when they are connected to their campus network

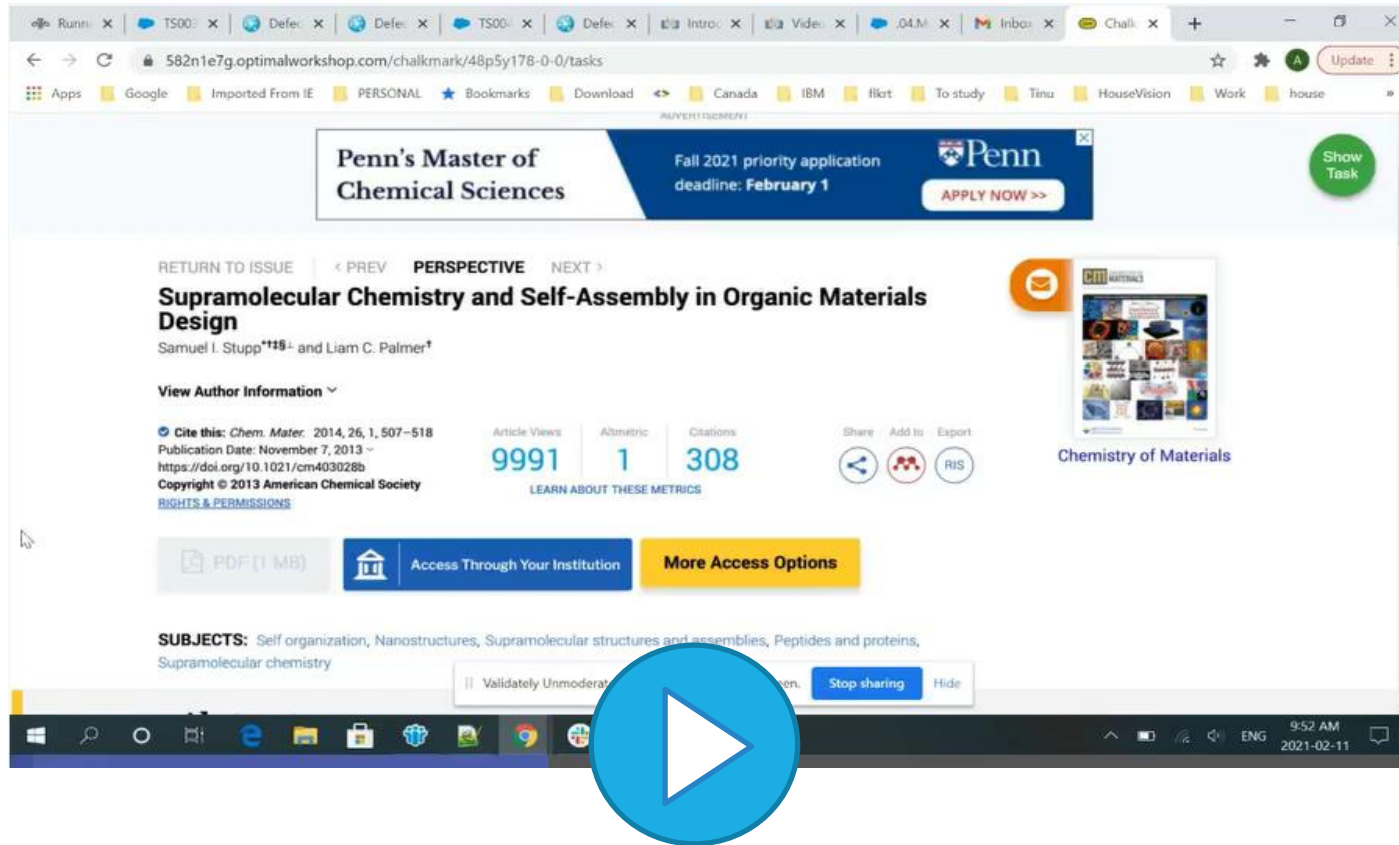
“I did not use the access through institute in this test as I usually used that when I was on campus. Some accesses were limited as well, so I had to buy a pdf copy one way or another.”

“I did notice that option. But since I'm not on my campus network, I decided to not use that feature.”

“For most of them I easily could access by university credentials, but only if I am connected to the campus network. Otherwise I would purchase or use view online.”

“If I really needed an article off campus , I usually rented or bought only one article instead of getting a whole year membership. It was really easy to find because I have used it a lot.”

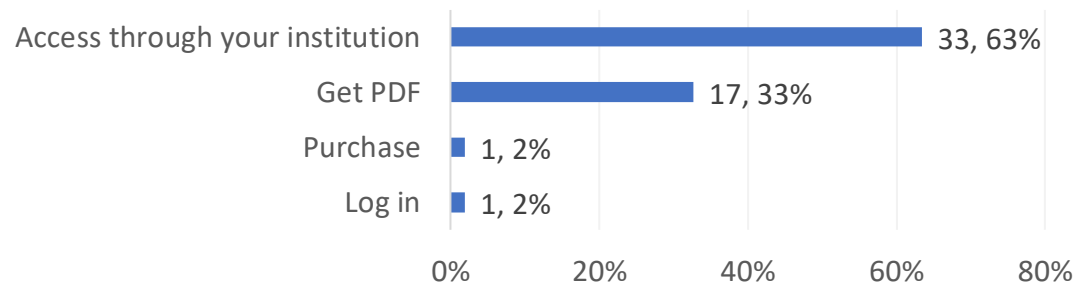
Some participants that “failed” still understood that they needed access through their campus network



“I will click on ‘More Access Options’ since I am out of my campus.”

PDF competes with other access choices

PDF competes with Access through your institution



When asked specifically based on this exercise, which of the following would you be most likely to select to get you access to the full text in the future? 33% still chose “Get PDF”

When asked if “Access through your institution” button was recognizable as the primary method to get to the full-text, participants stated yes, when PDF option was not available.

“Yes in certain cases when the pdf option was not available other than that the pdf option stood out more.”

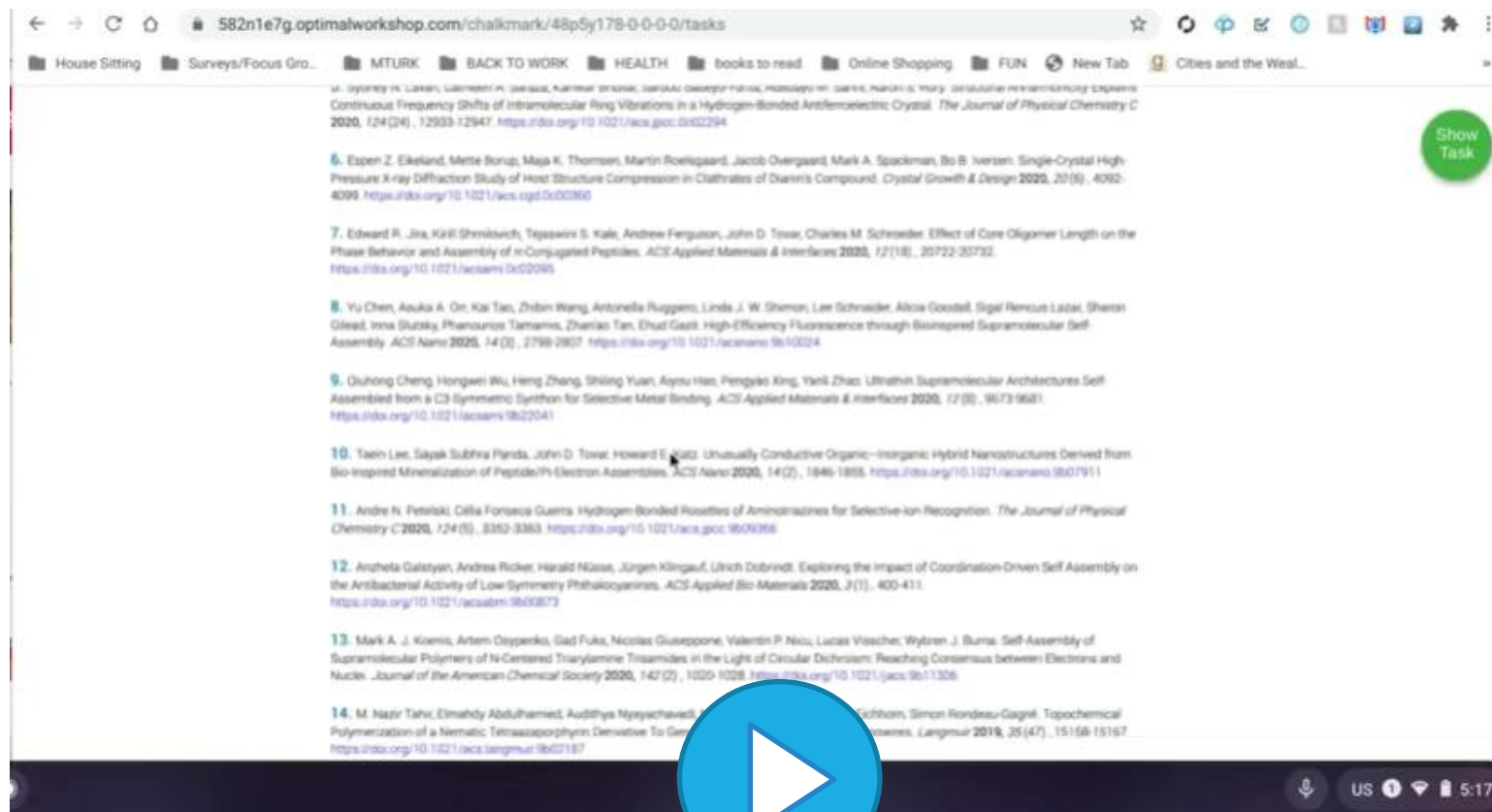
“It was generally recognizable but not always obvious as the primary method.”

“when there were no buttons like get pdf or read full text, that option seemed the most intuitive to me and I always selected it.”

“The first time I actually noticed that button was on the third page if I recall correctly, which means that I didn't really consider it the main option. I think the ‘pdf’ or ‘read pdf’ one was a better choice.”

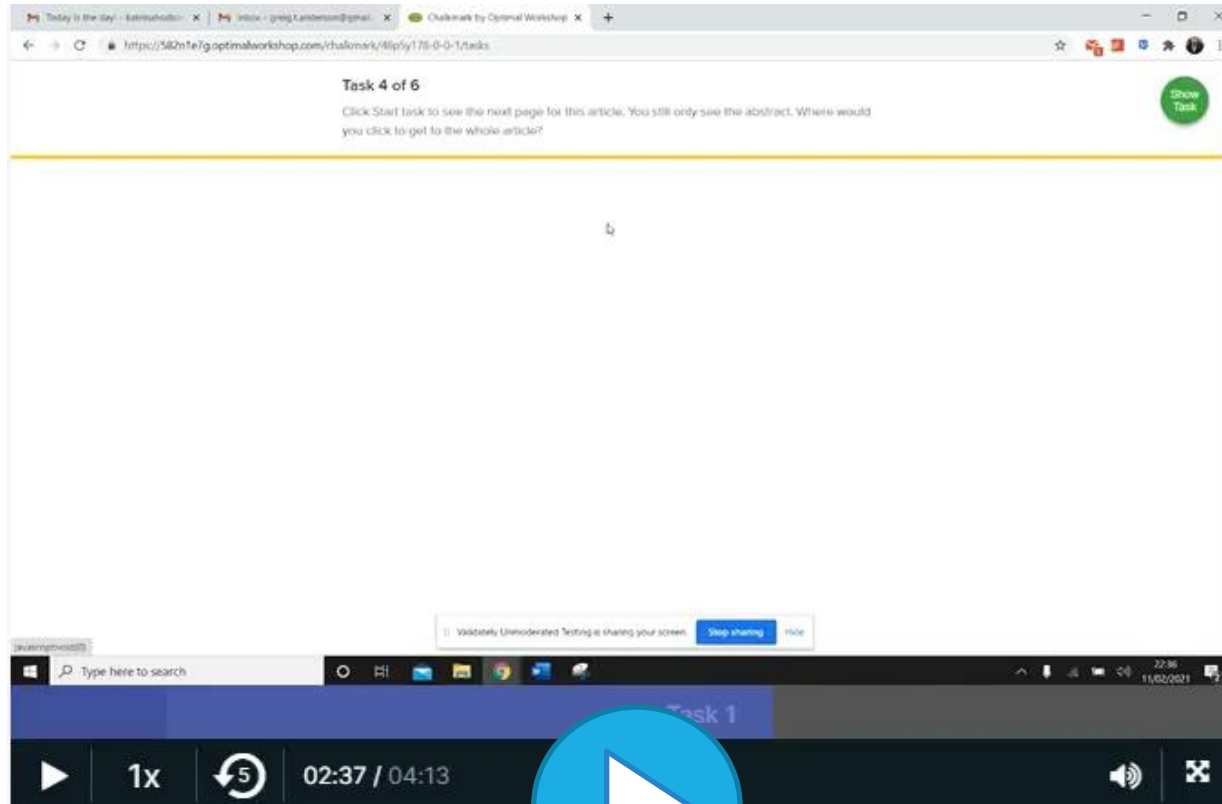
“Layered” experience was disorienting for some

User expected button on all pages: ACS Publications



(Video description) This ACS Publications article was the last task for the participant. She feels lost on this first landing page because she was looking for some kind of “access via institution” CTA but can’t find it. When she saw the second page, it was clear to her where she should click, and states, “see why wasn’t that on the last one?”

User expected button on all pages: Wiley

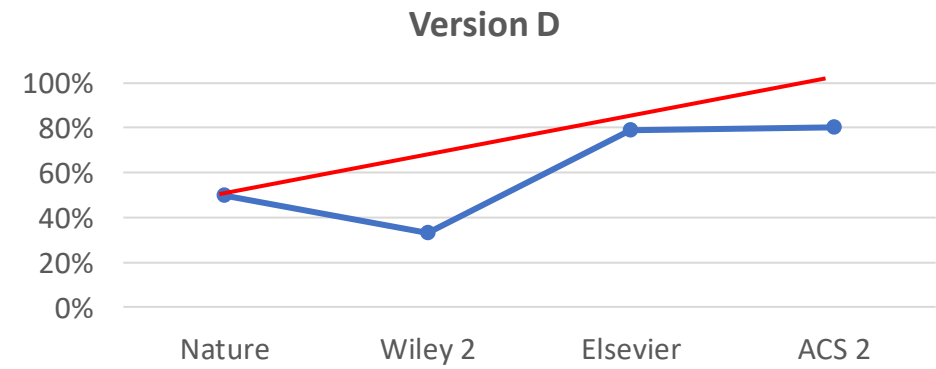
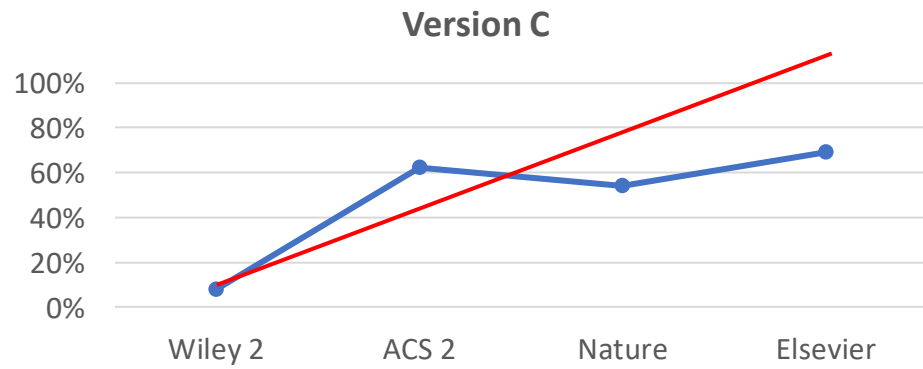
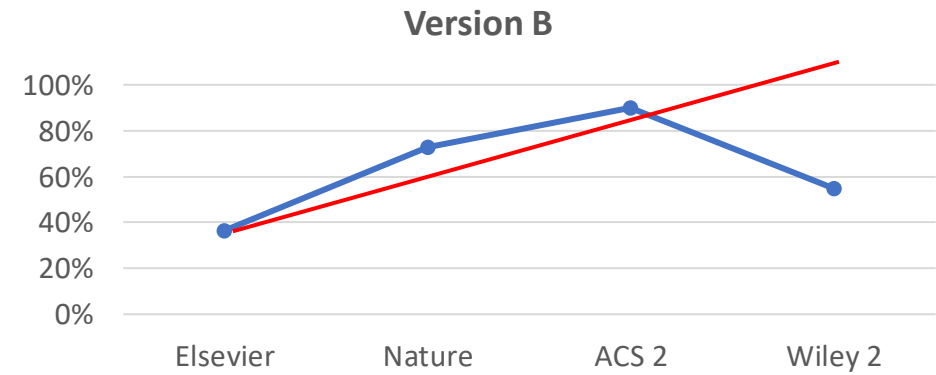
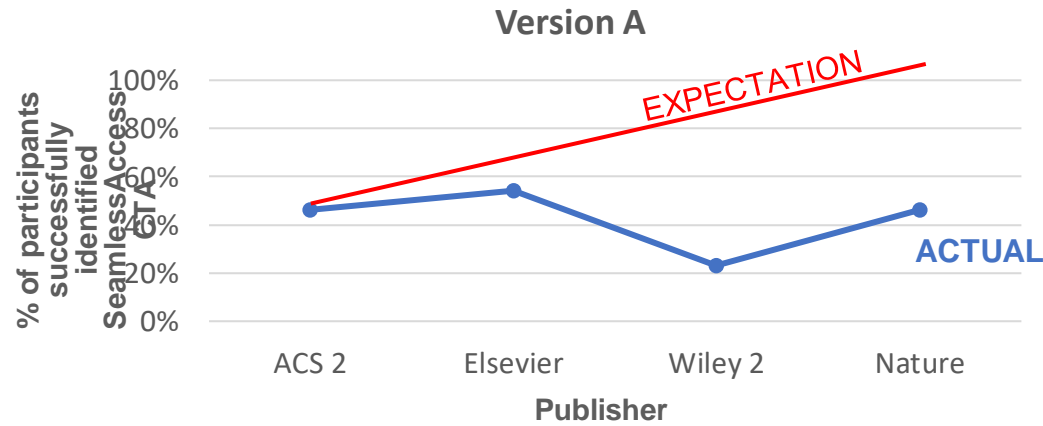


(Video description) This Wiley article was the last task for the participant. On the first page landing page, she tell us it would be “access through institution” but couldn’t find it so she selected “PDF”.

When she saw the second page, she hesitated because now she has the PDF option again as well as “Access through your institution”.

Variability in implementation

The rate of success did not increase as participants progressed through the tasks (blue line)



The variability in implementation across different publishers was a barrier to recognizing SeamlessAccess

“Sometimes I had to scroll down the page and look through a lot of text to find the location where I could select “access through institution”.”

“Sometimes it's confusing as I did not see any options to select to view the whole text.”

“Some of the pages were not very clear when it came to finding the right place to click. For example, I remember browsing one page where there was a really huge wall of text and the button was hidden in the top right.”

“I really had to search around to find an access point. But I was able to find them. So it wasn't too difficult or super easy.”

“If the button was big and in an obvious position, like right in the middle, then it was easy. Occasionally the button was small or hidden away and this made it harder.”

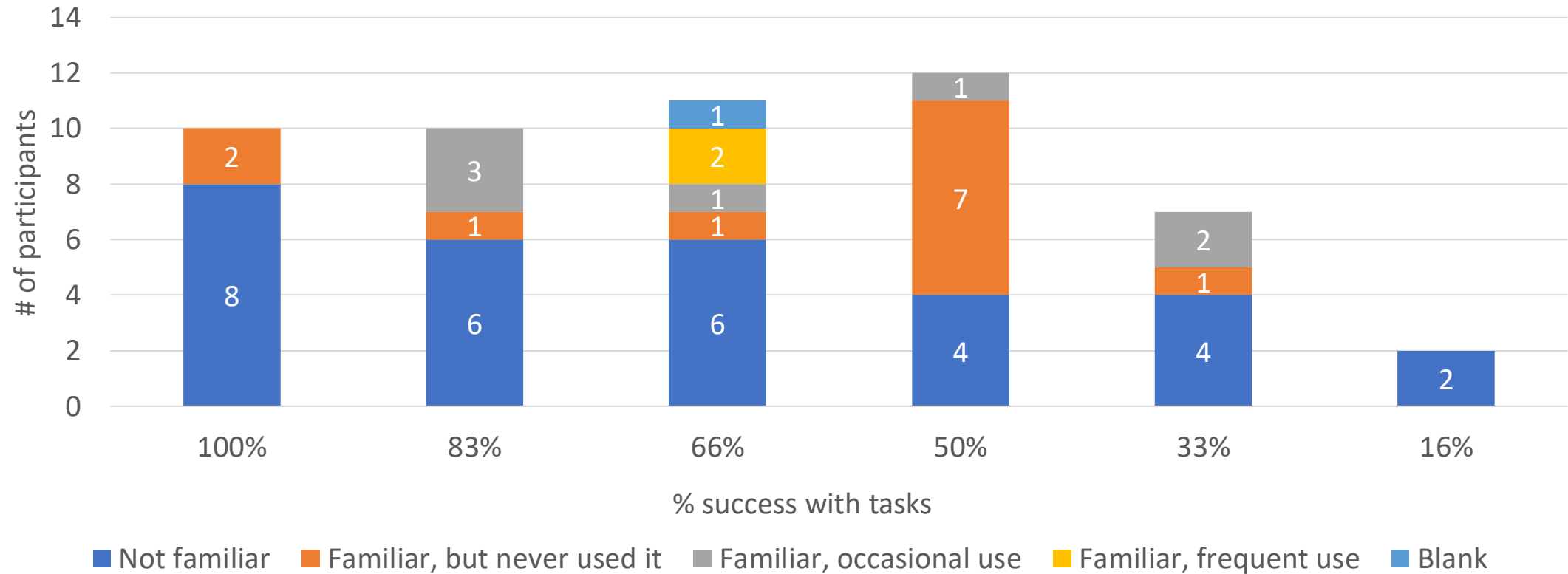
“It is easiest to find the option to get full article text when it is available above the abstract of the article on that page.”

To achieve improved consistencies across publishers

- ❖ More consistency in implementation across publishers
- ❖ Reduce the number of possibilities available for access to full-text.
- ❖ Group the Access Options.
- ❖ Place SeamlessAccess CTA in user's path.
- ❖ As implementation numbers increase, encourage library instruction about Seamless Access to consumers of scholarly articles.

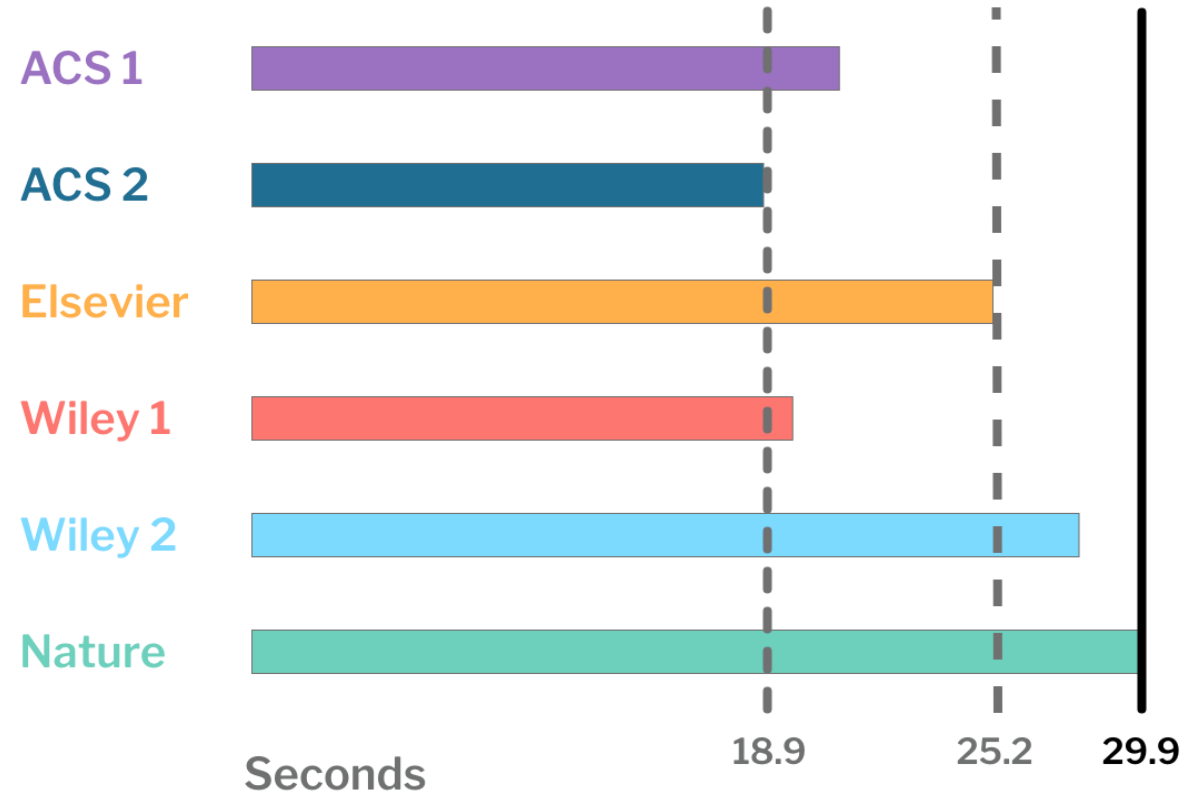
Appendix

Task success or failure was independent of participant's familiarity with federated access



Average task completion times

Publishers



ACS Publications

Page 1: landing on abstract page

The screenshot shows the ACS Publications landing page for the article "Supramolecular Chemistry and Self-Assembly in Organic Materials Design" by Samuel I. Stupp and Liam C. Palmer. The page includes a navigation bar with "ACS Publications", "C&EN", and "CAS" logos. A search bar and "My Activity" link are present. An advertisement for Penn's Master of Chemical Sciences is displayed. The article title and authors are prominently featured. Below the title, there is a "View Author Information" section with citation metrics: 9991 Article Views, 1 Altmetric, and 308 Citations. A "Read Online" button and a "PDF (1 MB)" button are visible. The "Abstract" section begins with the text: "Organic materials naturally lend themselves to the crafting of structure and function using the strategies of self-assembly and supramolecular chemistry employed so effectively by biological systems. This perspective illustrates progress over the past two decades on self-assembly in materials chemistry through research on systems where function is directly linked to noncovalent interactions among molecules. The genesis of this approach in chemistry of materials involves the design of relatively simple structures using hydrogen bonding, π - π stacking, metal-ligand interactions, electrostatic forces, strong dipole-dipole association, hydrophobic forces, and steric repulsion. Gradually many new and exciting opportunities have emerged, such as supramolecular nanostructures that assemble into functional bulk materials and supramolecular polymers in which the motif of covalent connections among monomers is imitated by creating one-dimensional assemblies of an arbitrarily large set of molecules in both composition and size. Supramolecular polymers offer the opportunity to create structures that integrate unprecedented order in 1D assemblies with interesting dynamics through bond reversibility. Other fascinating systems are those in which intermolecular interactions and other forces can be used to create the hierarchical and highly functional structures ubiquitous in biology, such as bone and muscle, in which different types of order exist within the same structure at different length scales. Directions that have a bright future include nonequilibrium dynamic materials with the capacity to be adaptive, self-repairing, chemically alterable, and even replicative—all characteristics we see in living organic matter. Additional promising areas include 2D and 3D systems that are not necessarily classical crystals and the rational synthesis of functional organic-inorganic hybrid materials. The most exciting aspect of self-assembly and supramolecular chemistry is their open ended nature, and these are two areas of chemistry for which many new principles will be established in this century."

Different access options are presented after the initial selection on page 1 shown on the left.

Page 2: "access denied page" page contains SeamlessAccess CTA

The screenshot shows the "access denied" page for the article. It features a "Visible on screen" callout box over the abstract text. The page includes a "To access the full text, please choose an option below." section with two buttons: "Access Through Your Institution" and "Log In with ACS ID". A "SeamlessAccess CTA" is also present, stating: "ACS members enjoy benefits including 50 free articles a year and reduced priced individual subscription." The page also lists "Supramolecular Polymers" and "Supramolecular Polymerization" as related topics.

ACS Publication Heatmap – Page 1

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Supramolecular Chemistry and Self-Assembly in Organic Materials Design

Samuel I. Stupp^{†‡§} and Liam C. Palmer[†]

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Publication Date: November 7, 2013
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Abstract

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Supramolecular Chemistry and Self-Assembly in Organic Materials Design

Samuel I. Stupp^{†‡§} and Liam C. Palmer[†]

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SUBJECTS: Self organization, Nanostructures, Supramolecular structures and assemblies, Peptides and proteins, Supramolecular chemistry

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Elsevier/ScienceDirect

The screenshot displays the ScienceDirect website interface. At the top, the ScienceDirect logo is on the left, and navigation links for 'Journals & Books', 'Register', and 'Sign in' are on the right. Below the header, there are options to 'View PDF', 'Access through your institution', 'Purchase PDF', and 'Other access options', along with a search bar labeled 'Search ScienceDirect'. The main content area features the journal title 'Current Biology' (Volume 21, Issue 7, July 2005, Pages 1145-1156) and the article title 'Developmental validation of the MiSeq FGx Forensic Genomics System for Targeted Next Generation Sequencing in Forensic DNA Casework and Database Laboratories'. The authors listed are Yang Cai, Ingo Snel, Betty Cheng, B. Suman Bharathi, and Clementine Klein. The page includes a table of contents on the left, a 'Recommended articles' section on the right, and a 'Highlights' section at the bottom. The article is marked as 'open access'.

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Outline
Summary
Keywords
1. Introduction
2. Materials and methods
3. Results
4. Discussion
5. Conflict of interest statement
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Developmental validation of the MiSeq FGx Forensic Genomics System for Targeted Next Generation Sequencing in Forensic DNA Casework and Database Laboratories

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Table 1

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Wiley

Page 1: landing on abstract page

The screenshot shows the Wiley ChemPhysChem article page for the article "What Molecular Features Govern the Mechanism of Supramolecular Polymerization?". The page includes a navigation bar with "JOURNALS", "GET PUBLISHED", "EVENTS", and "COLLECTIONS" menus, and social media icons for Twitter, Facebook, and LinkedIn. A banner for "Wiley Analytical Science" is at the top. The article title is prominently displayed, followed by the authors' names and the publication date. Below the title, there are options to "Read the full text" and icons for PDF, TOOLS, and SHARE. The abstract text is visible, starting with "An understanding of the mechanisms of supramolecular polymerization from a molecular point of view is lacking...". On the right side, there is a sidebar with a "WILEY Special Collection Wiley Analytical Science Top 20 Articles in 2020" and an "EXPLORE NOW" button. At the bottom, there are buttons for "Citing Literature" and "Supporting Information". A "Visible on screen" callout box is overlaid on the bottom left of the page.

Different access options are presented after the initial selection on page 1 shown on the left.

Page 2: "access denied page" page contains SeamlessAccess CTA

The screenshot shows the Wiley ChemPhysChem article page for the article "What Molecular Features Govern the Mechanism of Supramolecular Polymerization?". The page includes a navigation bar with "JOURNALS", "GET PUBLISHED", "EVENTS", and "COLLECTIONS" menus, and social media icons for Twitter, Facebook, and LinkedIn. A banner for "International Conference on Resource Chemistry ICRC" is at the top. The article title is prominently displayed, followed by the authors' names and the publication date. Below the title, there are options to "Read the full text" and icons for PDF, TOOLS, and SHARE. The article is marked as "Access Denied" with a message: "Get access to the full version of this article. View access options below." Below this message, there are three main access options: "Institutional Login" (Access through your institution), "Purchase Instant Access" (48-Hour online access for \$8.00, Online-only access for \$18.00, and PDF download and online access for \$49.00), and "Log in to Wiley Online Library". A "Log in" button is present. On the right side, there is a sidebar with a "SciTec Career" advertisement and a "Metrics" section showing "Citations: 98" and an "Am score" of 1. At the bottom, there is a "Check out" button. A "Visible on screen" callout box is overlaid on the bottom right of the page.

Wiley Heatmap – Page 1

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Pages 661-673

Concept

What Molecular Features Govern the Mechanism of Supramolecular Polymerization?

Chidambar Kulkarni, Prof. Sundaram Balasubramanian ✉, Dr. Subi J. George ✉

First published: 18 December 2012 | <https://doi.org/10.1002/cphc.201200801> | Citations: 98

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Wiley Heatmap – Page 2

The screenshot shows a Wiley article page with several sections. A heatmap overlay consists of yellow circles of varying sizes, indicating click activity. Annotations include a green '58%' pointing to the Institutional Login button, a red '29%' pointing to the 'Check out' button, and a 'Disclaimer' box at the bottom left. The article content includes an abstract, keywords, and publication history.

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Abstract

An understanding of the mechanisms of supramolecular polymerization from a molecular point of view is lacking. Several reports in the literature on the mechanism exhibited by different classes of molecules are examined in an attempt to correlate the molecular features to the aggregation pathway followed. It is proposed that long-range interactions between oligomers could lead to their cooperative growth. The lack thereof leads to isodesmicity.

Supporting Information

SciTec Career

Related Information

Metrics
Citations: 98
Am score 1

Details
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Keywords
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Funding Information
• JNCASR

Publication History
Issue Online: 11 March 2013
Version of Record online: 18 December 2012
Manuscript received: 25 September 2012

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Self-assembly of a layered two-dimensional molecularly woven fabric

David P. August, Robert A. W. Dryfe, Sarah J. Haigh, Paige R. C. Kent, David A. Leigh , Jean-François Lemonnier, Zheling Li, Christopher A. Murny, Leoni I. Palmer, Yiwei Song, George F. S. Whitehead & Robert J. Young

Nature **588**, 429–435(2020) | Cite this article

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Abstract

Fabrics—materials consisting of layers of woven fibres—are some of the most important materials in everyday life¹. Previous nanoscale weaves^{2,3,4,5,6,7,8,9,10,11,12,13,14,15,16} include isotropic crystalline covalent organic frameworks^{12,13,14} that feature rigid helical strands in one dimension, rather than the two-dimensional^{17,18} layers of flexible conventional textiles their characteristic flexibility, thinness, and anisotropic strength and porosity. A supramolecular two-dimensional kagome weave¹⁵ and

(Page bottom visible after scrolling)

microscopy show clusters and, occasionally, isolated individual sheets that, following demetallation, have slid apart from others with which they were stacked during the tessellation and polymerization process. The layered two-dimensional molecularly woven material has long-range order, is birefringent, is twice as stiff as the constituent linear polymer, and delaminates and tears along well-defined lines in the manner of a macroscopic textile. When incorporated into a polymer-supported membrane, it acts as a net, slowing the passage of large ions while letting smaller ions through.

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Self-assembly of a layered two-dimensional molecularly woven fabric

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