Content on the _Delftia_ Hub increased website activity, and users were engaged by _Delftia_ content

Increasing the Online Presence of _Delftia acidovorans_ through an Interactive, Engaging, and Accessible Web Hub

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Background

Problem: Disjointed, complex literature. Lack of societal scientific literacy.
Solution: Engage public using _Delftia_, bacteria that biomineralizes gold.

public interest → research funding → active research → develop technology

OPEN ACCESS SCIENCE →

An online _Delftia_ Hub that collects, synthesizes, and disseminates research will promote scientific literacy, virtually engage more participants in research, and propel new projects.

Methods

- Improve accessibility (alt text, SEO)
- Engage public (blog content, social media, graphics)
- Teach literacy (Hypothes.is annotations)
- Share data (protocols, results)

Discussion

The _Delftia_ Hub recruited visitors and engaged them, as expected. Engagement, as shown by low bounce rate (<70%) and >2 pages per session was successful. Although the site was active, no student annotations were created. Annotations from researchers defined keywords, highlighted important information, and posed questions to improve readability by 165%. Metric analysis is limited to 28 days, caused by an error in Google Analytics.
In the future, more content will be added to the Hub to continue public education. Additionally, a Wikipedia editing initiative this fall will further public scientific literacy and create more accessible content.

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28 days
448 pageviews 159 users

120
80
40

40% users visited >1 page

165 Hypothes.is annotations on primary articles
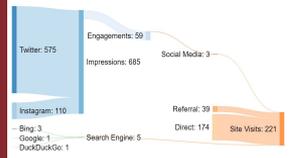
Annotations are **165.7%** more readable than literature

14 pts
Grade level: 16.2

37.2 pts
Grade level: 11.1

annotations

Flesch Readability Scores

Twitter: 575
Engagements: 59
Impressions: 685
Social Media: 3
Instagram: 110
Referral: 39
Bing: 3
Google: 1
DuckDuckGo: 1
Search Engine: 5
Direct: 174
Site Visits: 221

Week	Total Sessions	Sessions per Day	Total Users	Users per Day	Total Pageviews	Pageviews per Day
1	16	2	13	2	47	3
2	12	1	9	1	26	3
3	146	3	138	2	244	12
4	49	8	38	6	131	18
Overall	223	3	198	2	448	6.5

Week	Pages per Session (avg)	% to Goal	Session Time (avg)	% to Goal2	Bounce Rate (avg)
1	2.234	111.70%	1.65	82.50%	60.00%
2	2.9	145.00%	3.233	161.67%	65.00%
3	2.279	113.93%	1.805	90.24%	56.78%
4	2.86	143.00%	2.576	128.81%	57.99%
Goal	2		2		70%

Results

Over 28 days, the Hub had daily activity of 2 users (n=198) (normalized n=159), 3 sessions (n=223), 6.5 pageviews (n=448). Users accessed directly (n=174), by referral (n=39), search engine (n=5), social media (n=5). Average session was 1.85min, pages per session was 2.10, bounce rate was 60%. Top content by session was Home (n=114), Blog (n=56), Call for Annotators (n=24), Annotation Info (n=16), Meet the Researcher (n=15). Social media accounts on Twitter and Instagram resulted in 685 impressions and 59 engagements. Twitter engaged 6% of users (n=575) Instagram engaged 25% (n=110). Hypothes.is grew 1 user, 165 annotations. Analysis of the text and annotations of Johnston _et al._ 2013 showed the Flesch Reading Ease of text was 14, while annotations were 37.2 (165.7% increase). Flesch-Kincaid grade level of text and annotations were 16.2 and 11.1, respectively.

References
Johnston CW, Wyatt MA, Li X, Ibrahim A, Shuster J, Southam G, Magarvey NA. 2013. Gold biomineralization by a metallophore from a gold-associated microbe. Nat. Chem. Biol. 9(241-243)