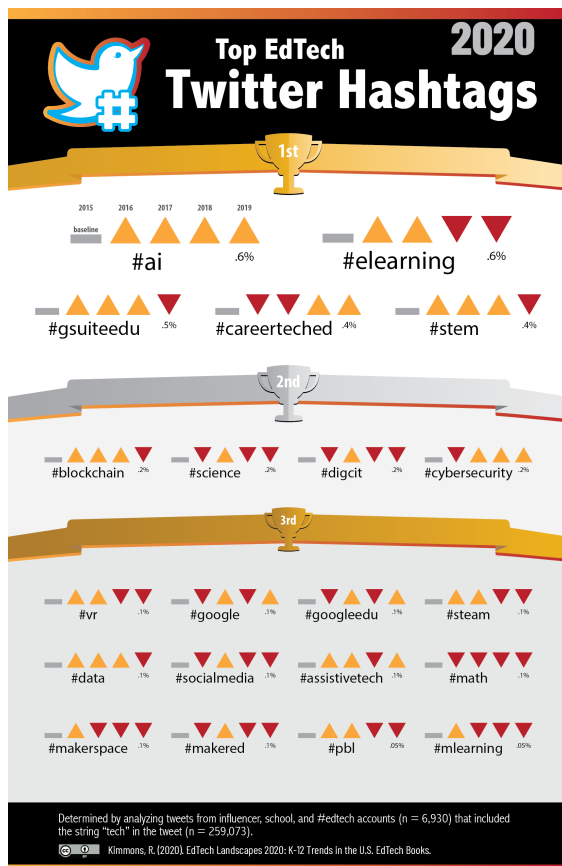


## Social Media Trends

What educational technology topics, tools, and resources have been trending on social media?

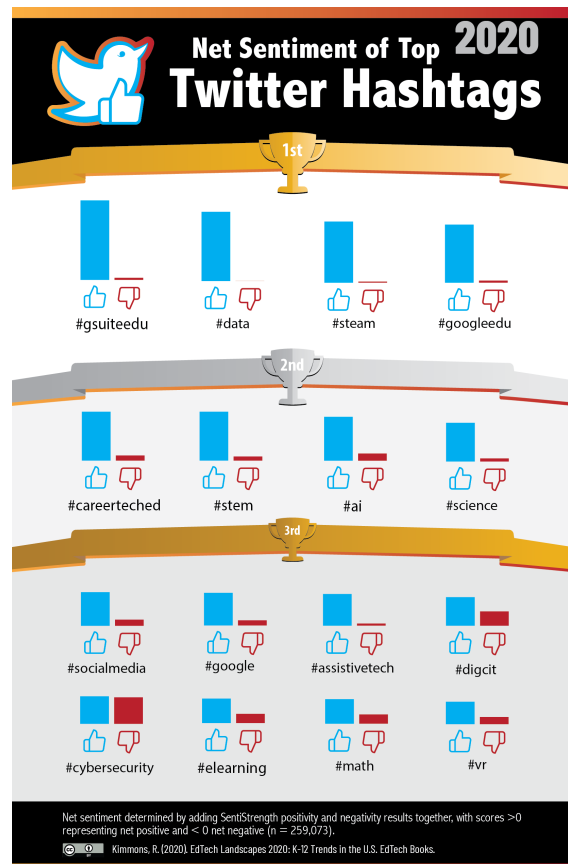


Because of their immediacy and low barrier to entry, social media

serve as valuable means for educators, researchers, and others to discuss emerging educational technology topics. As innovators talk about these topics, they will often utilize identifiers such as hashtags to signal the purpose or theme of their comments, and collecting and analyzing such posts (along with their hashtags) can give us valuable insight into what topics, tools, and resources are of emerging importance to innovators.

To begin to make sense of these rich data sources, I utilized the Twitter API to collect user biographical information and tweets from 6,930 users who either (1) represented official K-12 school accounts, (2) posted to the #edtech affinity space, or (3) were returned in search results for "educational technology," "edtech," "classroom technology," or "K-12 technology." I collected all available original English-language tweets for these users (n = 7.6 million, excluding retweets

and non-targeted years) and then narrowed analysis to only include those tweets that mentioned the word stem “tech” (n = 259,073).



I then extracted all hashtags from these tweets, focused on those

hashtags that referenced topics or tools (rather than generic or contextual terms like “#education”), and conducted sentiment analysis on hashtagged tweets (using SentiStrength) to determine the positivity and negativity exhibited in each.

Results indicated that the most popular hashtags for 2019 included “#ai,” “#elearning,” “#gsuiteedu,” “#careerteched,” and “#stem,” followed by “#blockchain,” “#science,” “#digcit,” and “#cybersecurity” (cf., Table 2). Of these top hashtags, only “#ai” saw increased usage each year, while “#gsuiteedu,” “#stem,” “#blockchain,” “#cybersecurity,” “#data,” and “#assistivetech” saw increases for three of the four years. The hashtag “#math” was the only one to see decreased usage each year.

Net sentiment of these (and other) prominent hashtags revealed that most were sentiment neutral (e.g., sharing a resource or link without any evaluative statements), but among those that did exhibit sentiment, most were positive (cf., Table 3). Notably, the hashtags with the most positivity included Google tools like “#gsuiteedu” and “#googleedu,” the subject area “#steam,” and the broad topic of “#data.” Some net positive examples included the following:

- Excellent Add-ons for Google Docs
- So thrilled one of my tips was chosen for this.
- New Google Calendar is slick! Really enjoying the new layout and customization tools!

In contrast, the hashtag “#cybersecurity” exhibited the most net negativity, revealing that many tweets using this hashtag focused on fears and frustrations, such as:

- The Horrors of Technology... AAAAAHHH!!!
- If we know these pa\$\$words are terrible, why do so many people use them?
- Wow. That's, well. Uh. Scary?

However, the net positivity of these tweets overall is noteworthy given larger trends toward critiquing some of these topics, such as AI and social media, and may suggest that the educational technology community has a generally more technophilic and less critical attitude toward these emerging technologies than the population at large.

**Table 2**

*Most Popular Twitter Hashtags Related to Educational Technology in 2015-2019*

Hashtag	2015	2016	2017	2018	2019	Overall
#ai	0.03%	0.10%	0.30%	0.38%	0.59%	0.30%
#elearning	0.55%	1.58%	2.86%	1.52%	0.55%	1.49%
#gsuiteedu	0.00%	0.03%	0.56%	0.62%	0.47%	0.36%
#careerteched	0.79%	0.47%	0.23%	0.33%	0.38%	0.42%
#stem	1.13%	1.31%	1.38%	3.10%	0.38%	1.50%
#blockchain	0.00%	0.03%	0.06%	0.51%	0.20%	0.17%
#science	0.18%	0.16%	0.44%	0.36%	0.17%	0.27%
#digcit	0.15%	0.09%	0.37%	0.25%	0.16%	0.21%
#cybersecurity	0.11%	0.08%	0.14%	0.15%	0.15%	0.13%
#vr	0.05%	0.31%	0.88%	0.49%	0.13%	0.40%
#google	0.28%	0.17%	0.19%	0.13%	0.13%	0.17%
#googleedu	0.21%	0.13%	0.23%	0.10%	0.11%	0.15%
#steam	0.11%	0.14%	0.38%	0.20%	0.10%	0.19%
#data	0.05%	0.09%	0.18%	0.33%	0.09%	0.16%
#socialmedia	0.17%	0.15%	0.25%	0.13%	0.06%	0.15%
#assistivetech	0.24%	0.24%	0.29%	0.06%	0.06%	0.17%
#math	0.23%	0.19%	0.16%	0.13%	0.06%	0.15%
#makerspace	0.19%	0.19%	0.16%	0.16%	0.06%	0.15%
#makered	0.38%	0.14%	0.15%	0.10%	0.05%	0.15%
#pbl	0.12%	0.17%	0.24%	0.18%	0.05%	0.16%
#mllearning	1.99%	2.19%	0.51%	0.13%	0.05%	0.89%

**Table 3**

*Sentiment of Most Popular Twitter Hashtags Related to Educational Technology in 2015-2019*

Hashtag	Pos	Neg	Hashtag	Pos	Neg
#gsuiteedu	78%	2%	#pbl	32%	1%
#data	68%	0%	#assistivetech	31%	2%
#steam	60%	1%	#digcit	28%	14%
#googleedu	57%	2%	#cybersecurity	27%	26%
#careerteched	48%	5%	#elearning	24%	9%
#stem	48%	4%	#math	24%	9%
#ai	43%	7%	#vr	22%	7%
#science	38%	3%	#makerspace	18%	9%
#socialmedia	33%	6%	#blockchain	17%	11%
#google	32%	5%	#mlearning	15%	9%
#makered	32%	5%			



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