

# L&D Trends on Twitter in 2016

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# Survey

The inspiration for this project came from Donald H. Taylor's [Global Sentiment in L&D Research](#). At the end of the year, Taylor asks his participants a simple question:

## **“What will be hot in workplace L&D in the upcoming year?”**

Our goal was to compare Taylor's survey predictions with the real-time pulse of L&D in 2016. We wanted to see if we could determine:

## **“What was hot in 2016 in workplace L&D?”**

Our main data source was Twitter, since their API makes relevant data publicly available. Since no system existed to do the analysis, we built one...

After combing through L&D Twitter power users, we hand-picked two accounts. We downloaded about 8.5 million tweets. Then—we took a deep dive into content analysis.

**Disclaimer:** Due to the nature of the medium, any given tweet might well be gossip, or shameless self-promotion. Despite this, it's our belief that gossip and self-praise do reflect the 2016 L&D zeitgeist, especially in terms of answering "What is hot?"<sup>1</sup> After all, if it's hot, it's definitely worth tweeting about—right?

<sup>1</sup>*An interesting study of Facebook's users from 2012 shows that a 'more agreeable' person is more likely to be tagged by other people posting photos. Social conformity and the "herd effect" are well researched topics.*

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# 2016 Twitter Users, Analysed



19,823

Accounts analysed



7,370,000

Tweets analysed

We started our research by analysing the Twitter followers of two well-established L&D professionals, one from the UK and one from the US. This meant we captured a large number of users from around the globe, all relevant to the industry.



## Donald Taylor

[@DonaldHTaylor](#)

A well-respected authority in the UK L&D scene. It seemed safe to assume that his most active followers were also survey participants because he used his Twitter profile to promote his survey.

- Number of 2016 followers analysed: **10,385 accounts**
- Number of 2016 tweets: **~4,755,000 tweets**



## David Kelly

[@LnDDave](#)

Executive Director at The eLearning Guild and a well-known name in the industry.

- Number of 2016 followers analysed: **12,041 accounts**
- Number of 2016 tweets: **~3,830.000 tweets**

Many Twitter users follow both accounts, so we deleted duplicates from our list.

# Keywords

Twitter users tweet about all sorts of things. To identify tweets related to our topics of interest, we created a list of keywords and matched the tweets we analyzed against it:

**Artificial intelligence<sup>1</sup>**

**Collaborative/social learning**

**Consulting more deeply with the business**

**Curation**

**Games/gamification**

**Knowledge management**

**Micro learning**

**Mobile delivery**

**MOOCs**

**Neuroscience/Cognitive science**

**Personalization/Adaptive delivery**

**Personal knowledge mastery (pkm)<sup>1</sup>**

**Synchronous delivery/webinars<sup>2</sup>**

**Video**

**Virtual and augmented reality<sup>1</sup>**

**Wearable tech<sup>2</sup>**

We based our list on Taylor's 2016 and 2017 survey response options. We made several iterations, repeatedly updating our analytics algorithm to make sure we were capturing relevant tweets. Assembling a list of relevant synonyms was key for most keywords. For others, we needed to identify phrases that increased the probability the tweet was related to workplace learning. A simple example: replacing "mobile" with "mobile delivery," or "mobile learning".

We dropped two items from Taylor's list: 'showing value' and 'developing the function'. Neither turned up very often, and when they did, they were used in conjunction with other keywords. Example: 'show value' can be paired with analytics, good reporting, or measuring impact to the bottom line. Also—it just wasn't possible to build enough brains into the algorithm for it to understand if a tweet was about developing the L&D function.

<sup>1</sup> Added in the 2017 research

<sup>2</sup> Removed from the research in 2017



# The Results



# L&D 2016 Twitter Trends

Virtual / augmented reality	21.81%
Video	10.70%
Collaborative / Social learning	10.37%
MOOCs	10.24%
Games / Gamification	9.16%
Artificial intelligence	8.90%
Synchronous delivery / Webinars	6.30%
Neuroscience / Cognitive science	4.61%
Curation	4.19%
Microlearning	3.49%
Personalization/Adaptive delivery	3.43%
Mobile delivery	2.92%
Consulting more deeply with the business	2.21%
Knowledge management	1.24%
Wearable tech	0.40%
Personal knowledge mastery (pkm)	0.02%

This table shows the results of analysing 19,823 Twitter accounts for the most popular L&D keywords.



**Virtual Reality / Augmented Reality:  
skyrocketing**



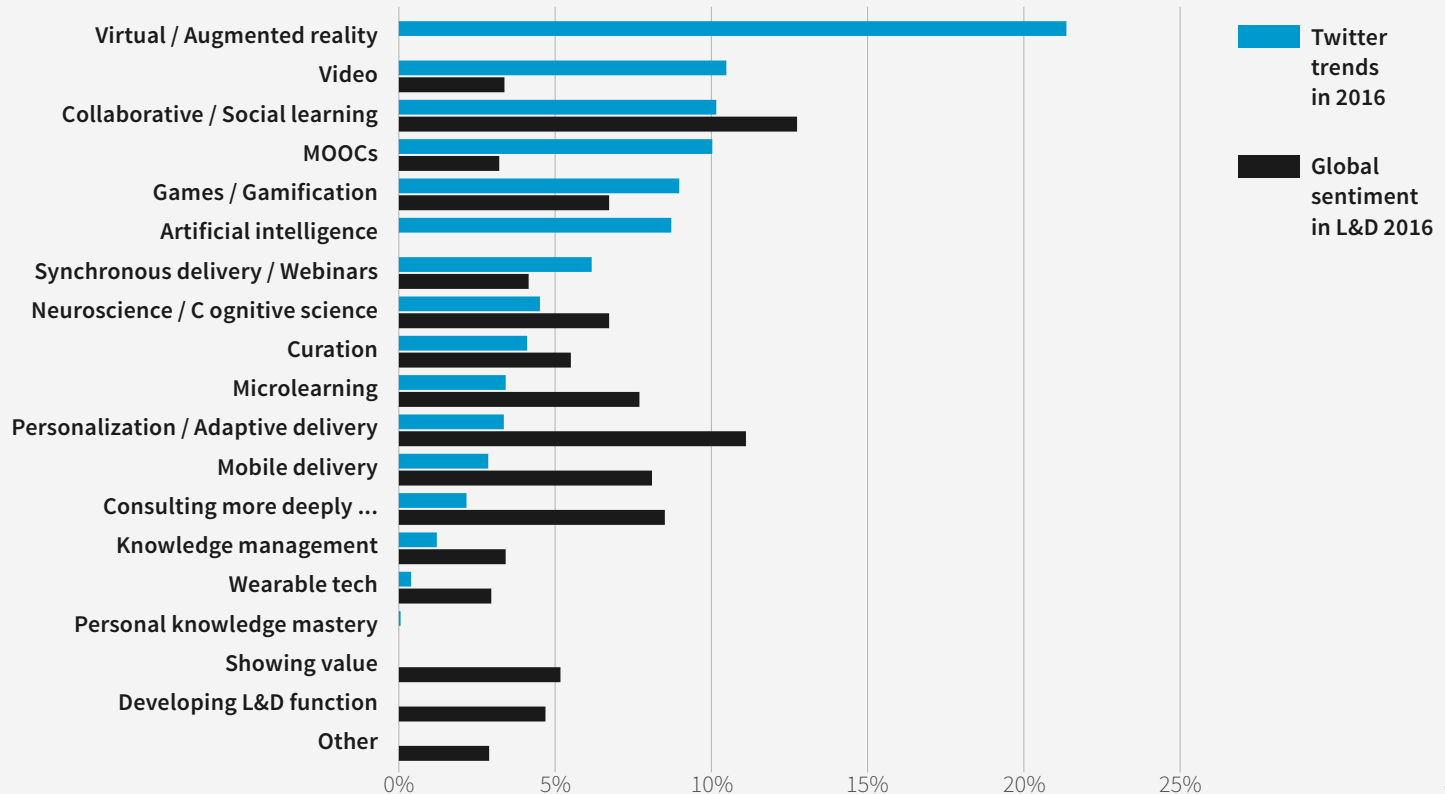
**Tech claimed more than 70%  
of all buzz, with all tech-related topics  
except wearables ranking very high**



**L&D specific topics were  
either not trending on Twitter  
or our analysis failed to track them**

# 2016: Twitter Trends vs. Global Sentiment in L&D Research

The graph below compares the predictions from the Taylor's 2016 research (“What will be hot in 2016”) with the 2016 Twitter buzz (“What was hot in 2016”).







**(un)Expected triumphs for Virtual/Augmented Reality and Artificial Intelligence.** Despite not being options in the 2016 survey, VR / AR and AI together accounted for more than 30% of all L&D tweets; with VR / AR claiming the absolute top spot. They were added to the 2017 survey and probably would have affected 2016 results had they been available.



**Video, MOOCs, Synchronous Delivery and Gamification hotter than expected.** Despite ranking low in Taylor's survey, all of these generated a surprising amount of buzz. L&D professionals seem to spend quite a bit of energy dealing with these topics while being reluctant to attribute them value.



**General consensus re Collaborative/Social Learning.** There seems to be an industry-wide agreement about the importance of Collaborative/Social Learning. Results are pretty much aligned in Taylor's predictions and our 2016 Twitter analysis—not surprising as collaborative/social learning has held the top position in the survey for the last few years.



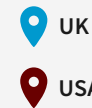
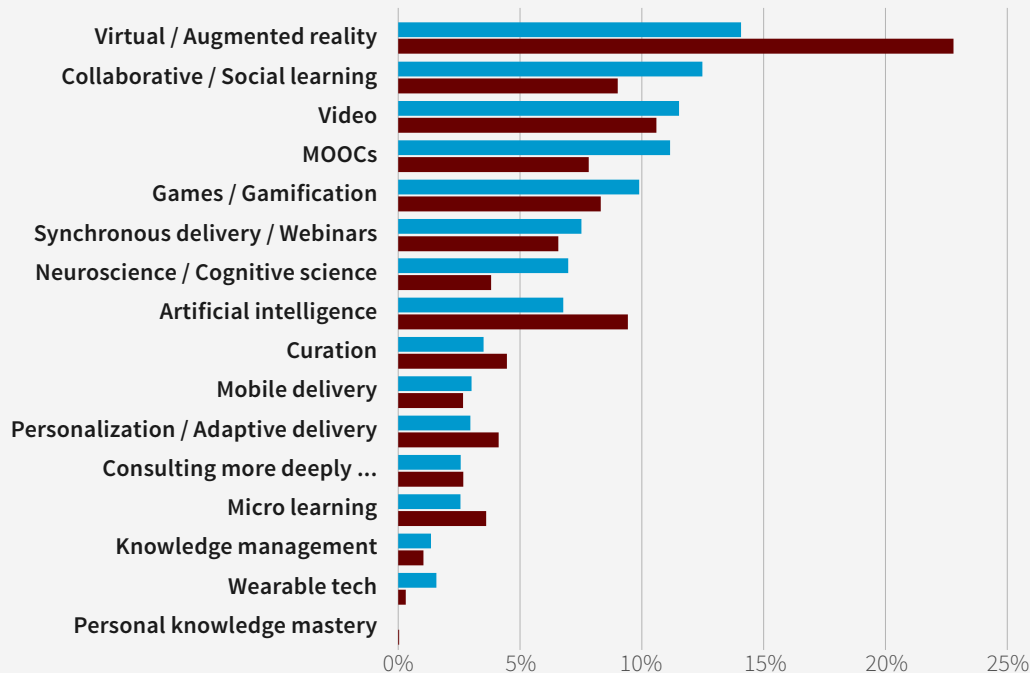
**Mobile and Microlearning not worth mentioning?** Despite ranking 4<sup>th</sup> and 5<sup>th</sup>, respectively, in the 2016 L&D Global Sentiment survey, these topics didn't exactly excel in Twitter sphere. Have they become too commonplace for further discussion? Personalization/Adaptive Delivery was another Twitter non-starter, despite scoring second in the L&D predictions.



**Some results to be taken with a grain of salt.** Consulting, Showing Value, Developing L&D, and Personal Knowledge Mastery may appear on Twitter in many forms. They are hard to capture without advanced semantic analysis. Which means: our analysis may have underestimated their impact.

# USA vs UK

Twitter users have the option to publically disclose information about their location. While this data might be a bit ambiguous, for our analysis we were able to validate the location of 1/3 of all accounts, including 18.8% from the USA and 12.9% from the UK.



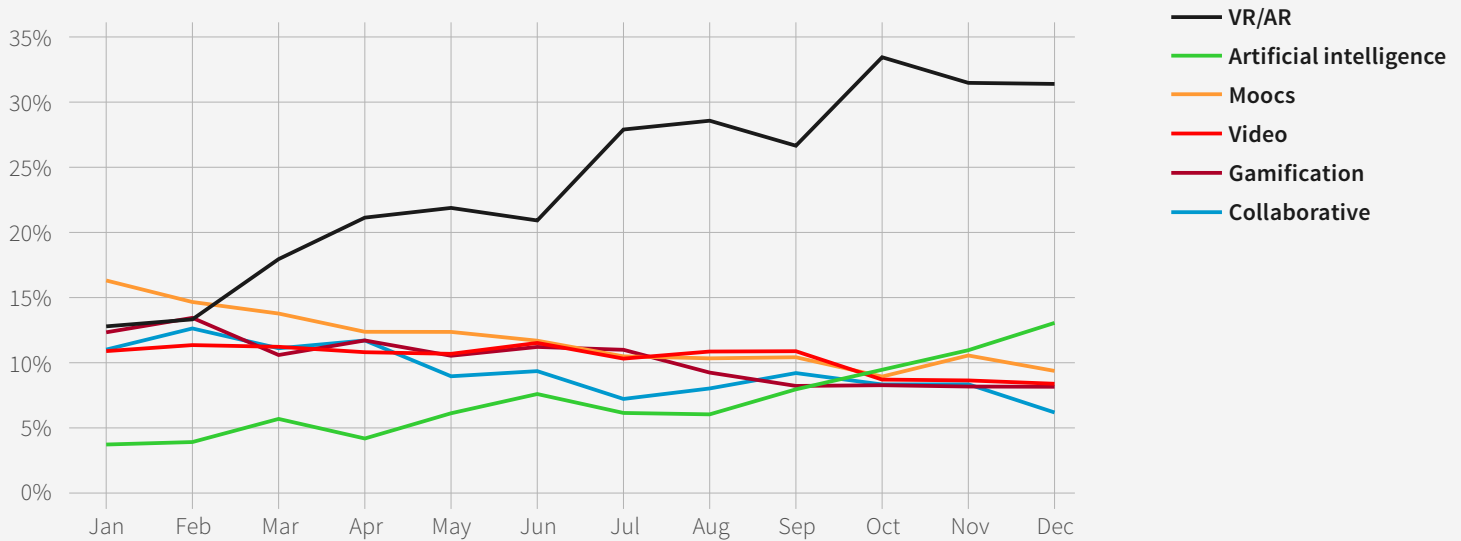
The US gets far more excited about new and emerging technologies. The majority of votes for virtual / augmented reality and artificial intelligence found in our Twitter results came from the US. There were no other marked differences between the two countries based on our keyword list.

## 2016: Movers and Shakers



# Trends Analised Throughout 2016

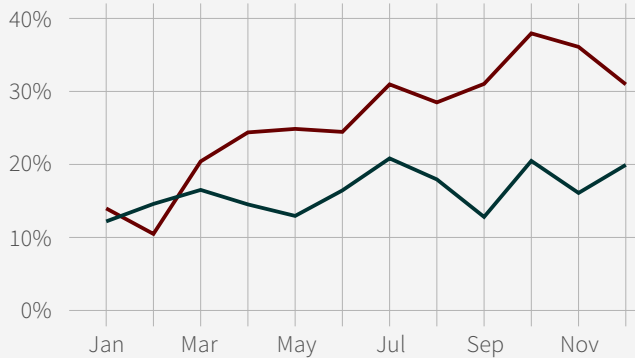
CEO of Apple Tim Cook is hyped about it, and the L&D community obviously wasn't immune to either the march of VR/AR or AI. In 2016, both topics were heavily present in our everyday lives, ever more so as the months rolled on. In October, artificial intelligence overtook MOOCs for second place, and hasn't looked back.



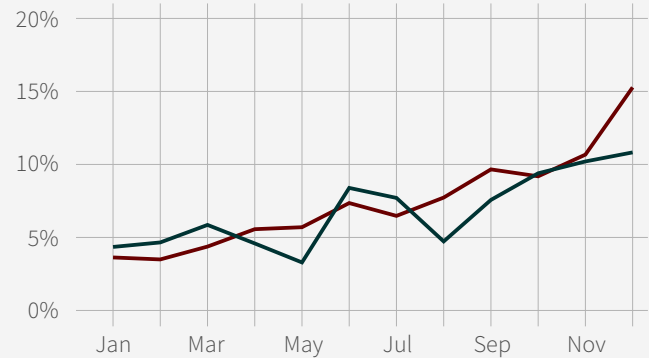
The chart shows keyword trends per month during 2016.

# Comparing US and UK trends

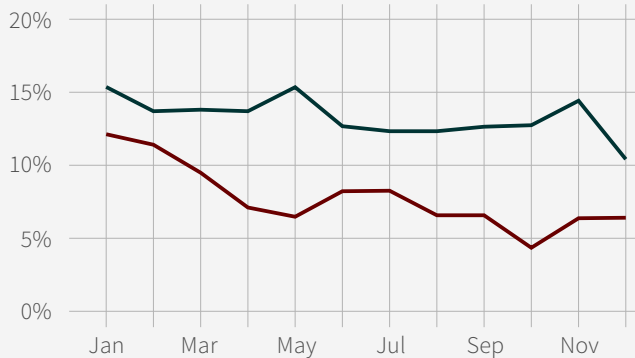
## Virtual reality



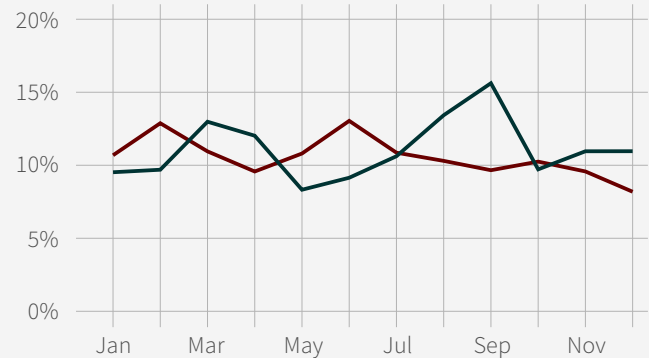
## Artificial intelligence



## MOOCs



## Video

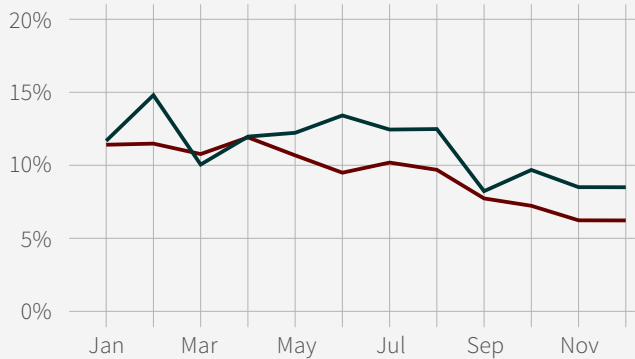


UK



USA

### Gamification

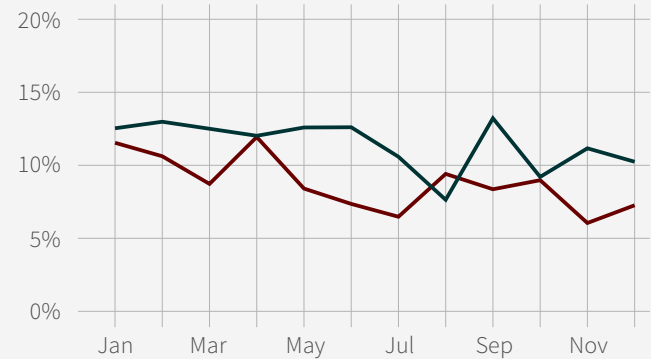


UK



USA

### Collaborative / Social learning



Despite some differences between the rankings of keywords in each country, trends in the UK and the USA generally seem to be moving in the same direction. The only keyword that stands out is VR in the USA, where it seems that early adopters made a big difference.

# Reflections





Let's start with **Virtual Reality and Augmented Reality**, top winners on Twitter, and highly ranked in Taylor's 2017 survey. It's interesting—while we can certainly see increasing excitement over these new technologies in the US Twittersphere, predictions for VR/AR in Taylor's 2017 Survey are significantly low, *particularly* in the US. (VR/AR are more popular in other countries.) **Artificial Intelligence** fares similarly.

Second, nearly **70% of all 2016 L&D-related tweets were technology related**. However, survey results give importance to other topics and approaches.

It's probably safe to assume that **L&D professionals trend 'liberal' when on Twitter** while holding onto realistic or even conservative opinions in their predictions. It's also possible that the question, "What will be hot..." creates some of this discrepancy, as 'hot' might mean "something that will generate a lot of buzz" or, "something that will be used successfully in the real-life environment."

The fact is, although we all consider ourselves L&D professionals, **we are all biased in some way**. As social media takes an ever more important place in our lives, it also affects the way we predict the future—and some of the predictions for 2017 are most certainly the result of hot topics in 2016.

Finally, we would like to add our 2 cents! **L&D is not, actually, a rapidly changing industry**. So it's safe to assume that the really hot topics, the ones that actually are making their way into the L&D toolkit, have already been in place for quite a while. Meanwhile, the promising newcomers are looking at some time till wide implementation.

# About the authors



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Swinging for the fences where others seek minimal-risk strategies. JollyDeck's Chief Hustler with a flare for learning (and other) data.



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CTO @ JollyDeck Ltd.

Previously worked as marketing officer, copywriter, developer, designer, project manager and carpenter. Landed in e-learning years ago and still learning.

## About JollyDeck

At JollyDeck we've mastered the digital learning experience! Our virtual coaches fight learning fatigue with a unique attitude and engaging quirkiness. Powered by artificial intelligence, they personalise each user's learning path, maximizing overall learning efficiency.

Learning outcomes are measured in real-time via a [powerful ACME analytics framework](#) (Acquisition, Conversion, Measurement, Evaluation).

JollyDeck's clients have reported savings in time, money and effort, whilst achieving the highest engagement and success rates in the industry.

# Appendix A: Methodology



# Methodology

A few accounts have the power to influence what's trending. We had to come up with something better than simply counting a keyword's occurrence in all available tweets.

## Our goal?

For each of the 19,823 analysed Twitter accounts to be represented equally.

## How did we do it?

Basically, we isolated each account and analysed their keywords. The five top keywords per account were graded from 5 (most used) to 1 (least used). Finally, we summer up the scores for each keyword. The overall outcome was a normalized scoreboard.

## ...and its limitations

Twitter research can be affected by a number of factors. Here are some we took into consideration:

- **Typos.** Words that were not 100% matches for our keywords were not tallied as legit keyword hits. We tried to account for as many typos, derivatives and synonyms as possible, but this was still essentially a 'pizza & beer exercise'—typos are very common, especially when tweeting from smartphones and the 140 character limitation encourages the use of abbreviations.
- **Word derivatives.** We decided to allow two exceptions to the above rule. One considers the use of hashtags (e.g. #gamification = gamification). The other allows the use of the plural noun forms (e.g. MOOC = MOOCs).
- **Tweet context.** Some tweets covered our topics of interest while not containing any listed keywords.
- **Tweet sentiment.** Difficulty of determining positive or negative sentiment in the tweet.
- **Some users tweet in languages other than English.** And, they might add popular English keywords in their otherwise non-English tweets.
- **3,200 tweets from one account max.** Twitter API policy is to limit access to the last 3,200 tweets from an account. In the vast majority of cases, this limit was high enough to give us the complete timelines in 2016.

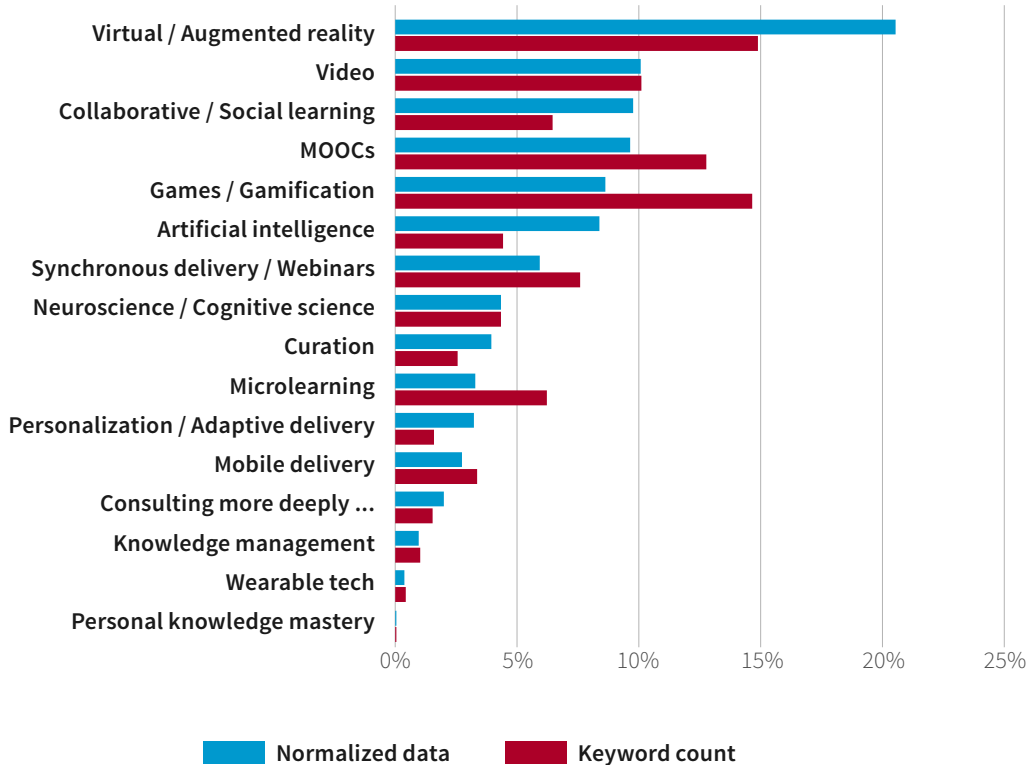


## Appendix B: Twitter Noise



# Twitter Noise

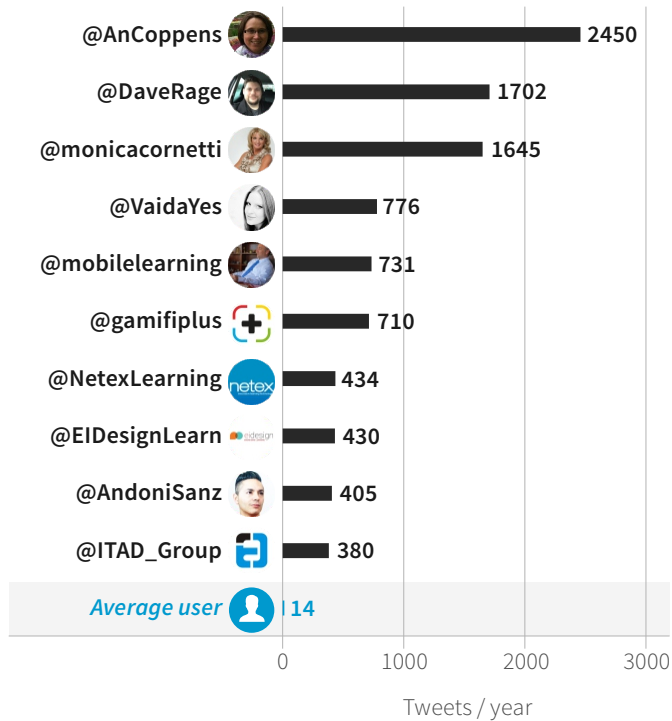
Normalized Data vs. Simple Keyword Count



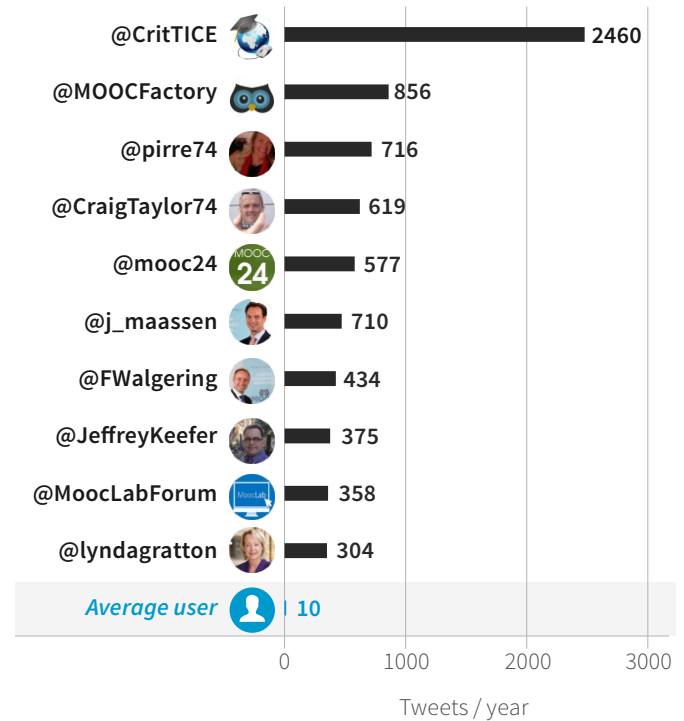
Twitter noise is generated by people who promote a certain topic so much that it becomes ubiquitous in their follower's timelines. This can quickly give a false impression about the popularity of a certain keyword.

We call such users 'evangelists'. Comparing popular keywords based on a simple count with the results based on normalized data reveals their power.

## Gamification



## MOOCs



An average L&D user tweeted around 14 gamification related tweets in 2016. In the same year, the most active gamification evangelist in our research produced 2,450 gamification related tweets. That's nearly 7 tweets/day. We found similar user behaviour with nearly every other keyword.

As Twitter users, we should be aware of this anomaly. It can easily skew our perception by pushing us toward what's heavily promoted by evangelists, rather than what's really hot in Twittersphere.