

## INTRODUCTION

### Background & Goal

Since the beginning of the pandemic in 2020, educational institutions across the world have transitioned several classes and programs to a remote system. With the challenges that have arisen from online learning, educators alike have turned to social media platforms to engage in discourse with others and share their opinions related to education.

This research hopes to illuminate the intersections of affinity space, public sphere, and opinion leadership on Twitter.

### Research Questions

**RQ1:** Can educator hashtag communities on Twitter be primarily defined as affinity space or a public sphere?

**RQ2:** What topics are being discussed in educator hashtag communities on Twitter?

**RQ3:** Will the primary topic of discussion in educator hashtag communities on Twitter change over time?

**RQ4:** To what extent will users acting as leaders in the hashtag community on Twitter change over time?

**RQ5:** How will the offline social status of users acting as leaders in educator hashtag communities on Twitter change over time?

## THEORETICAL FRAMEWORK

### Affinity Space

- Effective learning environments where individuals with shared interests gather and engage with each other to gain expertise on a particular subject
- Virtual, physical, or hybrid spaces
- Commonly used within education, online gaming, and political advocacy groups

### Public Sphere

- Social space for the purpose of societal communication
- Commonly found within mass media and online network media regarding topics about politics and policy

### Opinion Leadership

- Leadership is flexible and disconnected from social status or role outside of the space
- Traditionally explored through mass media (eg., television and radio)



## METHOD

Collected **709,903** tweets containing four key hashtags (#EdChat, #Edu, #Education, #Educhat) created during the **2020-2021 academic year** period under the impact of the pandemic (August 1-March 31) using the Brandwatch service.

### Tweet Content Analysis

Coded a total of **2090** tweets (10% of the sample) at a time, consensus coding any disagreements until intercoder reliability was established after the third round of coding (Krippendorff's  $\alpha = 0.84$ )

### Tweet Topic Modeling

Implemented the **Latent Dirichlet allocation (LDA)** algorithm with Gibbs sampling from the topicmodels package in R, running a unique topic model for each month

### Social Network Analysis

Created directed networks on **NodeXL** for each month  
The top 100 vertices by **in-degree centrality** were considered leaders for each month

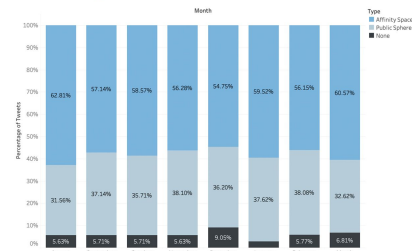
### User Role Content Analysis

Used three measures to analyze profiles of leaders, including user occurrence, user gender and user role (Krippendorff's  $\alpha = 0.81$ )



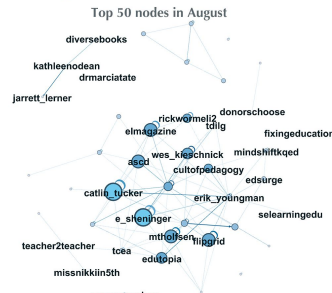
## RESULTS

### 1 Tweet Content Analysis



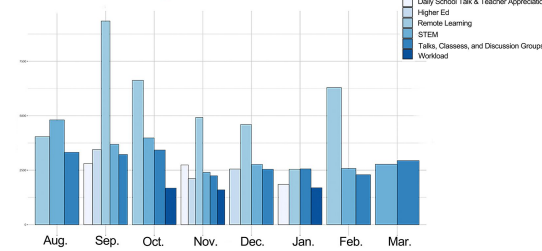
The proportions did not change too much throughout the months  
Always more affinity space tweets than public sphere tweets

### 3 Social Network Analysis



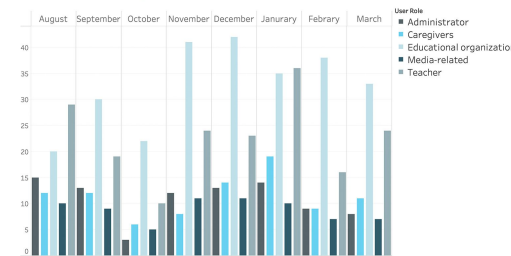
The two users @catlin\_tucker and @e\_sheninger were always shown as the top 10 leaders across eight months.

### 2 Tweet Topic Modeling



The most discussed topics: "Talks, Classes, and Discussion Groups", "STEM", "Remote Learning"  
Frequently mention terms "remote," "online" and hashtags such as "#remote learning," and "#distance learning"

### 4 User Role Content Analysis



26 users appeared constantly across eight months while 222 users were one-month leaders.

More male leaders than female leaders, except in September.  
Educational organizations and teachers are always the top 2 user roles in each month.

## DISCUSSION

### Affinity Space or Public Sphere?

- The dynamics of an affinity space create a prime opportunity for the deliberative discussions present in an ideal public sphere.

- Twitter platform can be considered as public sphere while subordinate hashtags serve as the affinity space:

*The influence of dominant users like political leaders can be widely spread on Twitter platforms and penetrate the educational hashtags.*



- A similar amount of representation in data exists between public sphere and affinity space:

*Educators are also citizens who can participate in topics of public interest.*

### Discussions of Education

- Discussion topics are stable but dynamic.
- Online debates are energetic with discussion topics changing frequently depending on the users' interests and prevalence.
- Some common topics are repeatedly re-emerging across months under analysis.

### Leaders in Educational Communities

- A mix of stability and change over time is witnessed on user leaders.
- Membership within Twitter affinity space is temporary.
- Leaders from the political field were presented as opinion leaders in the educational communities.



## REFERENCES

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