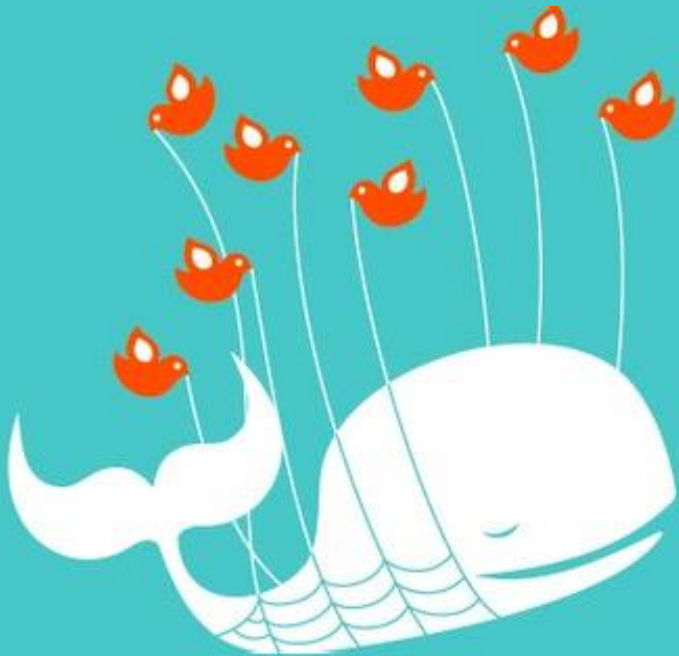


# Viability of using Twitter as a discussion tool: A Case Study

Tian Luo  
Helen Crompton





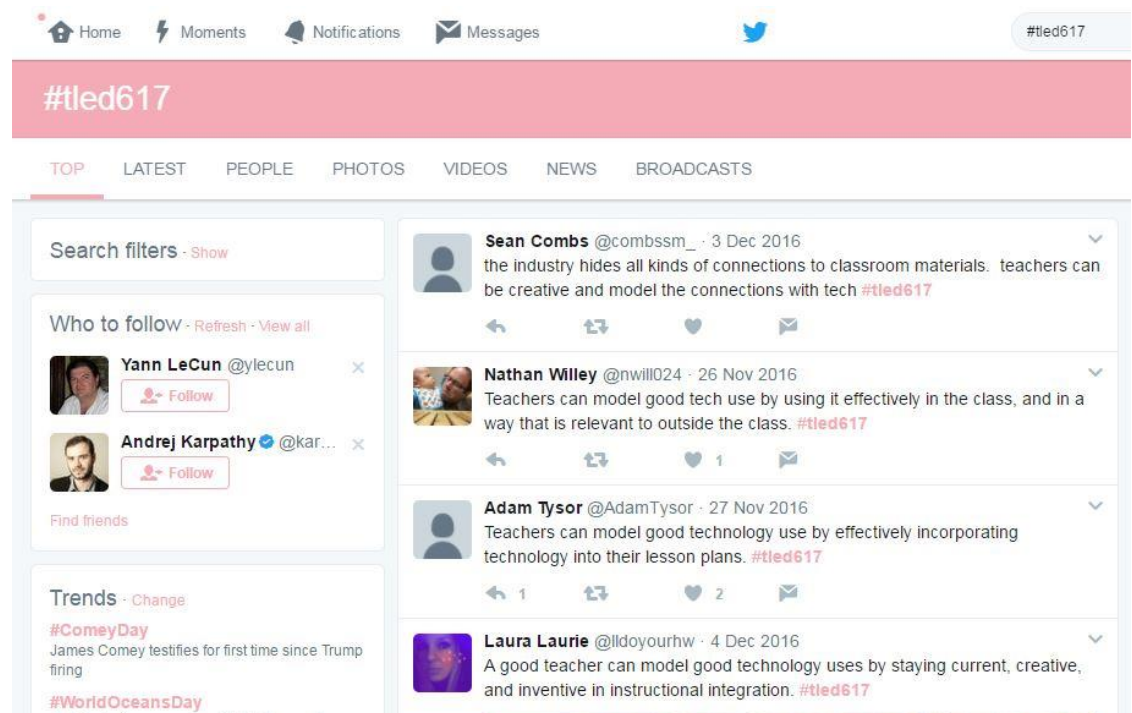
# Introduction

## Twitter

social networking platform for microblogging  
(140 characters or less)

Hashtag #Topic

Class hashtag:  
#tled617



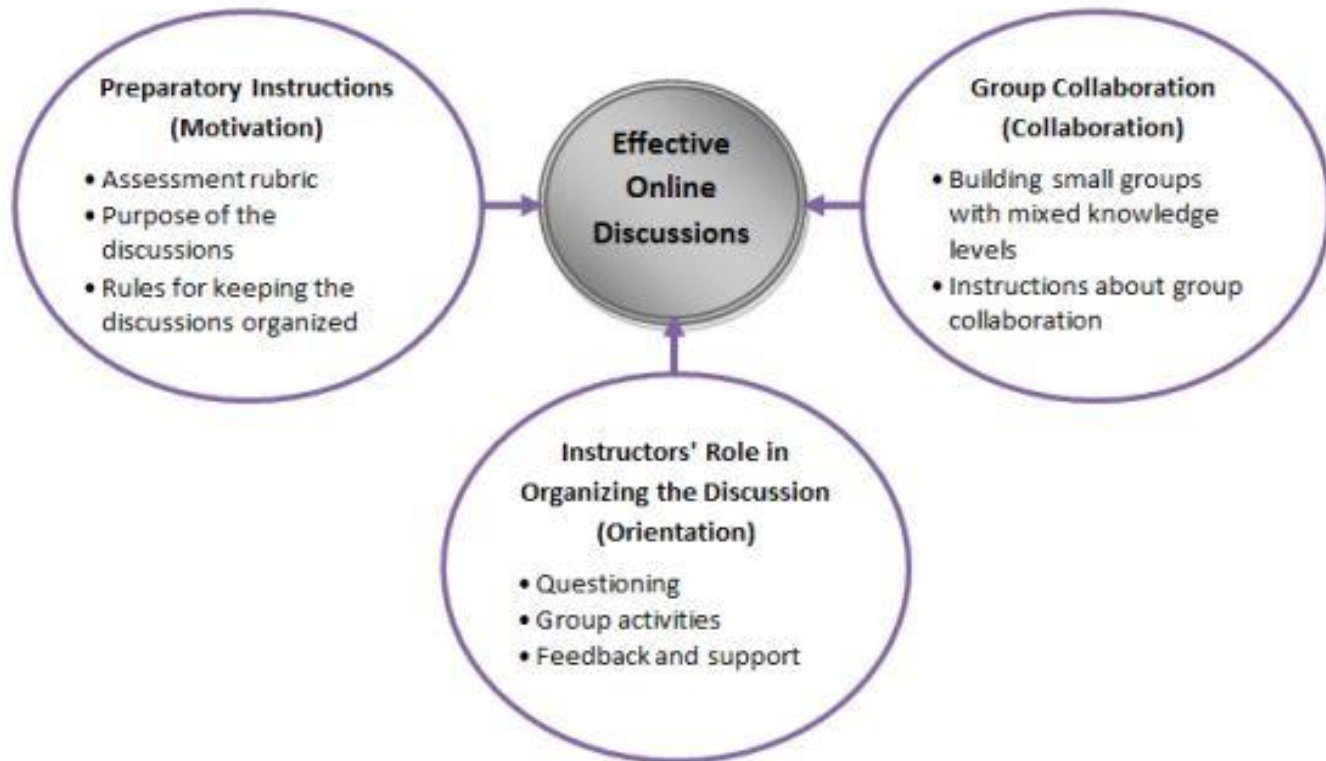


# Educational Effects

- Systematic review: (Gao, Luo,& Zhang, 2012):  
***Tweeting for learning: A critical analysis of research on microblogging in education published in 2008-2011.*** *British Journal of Educational Technology*, 43 (5), (pp. 783–801).
- Participation and engagement  
(Antenos-Conforti, 2009; Dunlap & Lowenthal, 2009; Elavsky et al., 2011; Holotescu & Grosseck, 2009; Junco et al., 2011; Kop, 2011)
- Learning community – social constructivism  
(Borau et al., 2009; Dunlap & Lowenthal, 2009; Ebner & Maurer, 2009; Wright, 2010)
- Collaborative learning  
(McWilliams et al., 2011; Perifanou, 2009; Junco et al.)



# A framework of effective asynchronous discussion



**Figure: 1**  
**Main components (MOC) of an effective asynchronous discussion.**



# Research Questions

1. What general participation patterns were observed on twitter versus discussion forum in terms of # of post, # of participation, duration of participation?
2. How did students perceive Twitter-supported activity?
  - What were students' perceptions about using Twitter for learning?
  - What were the competitive edges of Twitter as compared to Bb forum, if any?
3. What types of knowledge were manifested in microblogging-supported learning activities?



# Methods



# Research Design

- Context: A master-level, asynchronous, fully online course at a urban public university in US.
- Content focus: provide educators with foundational information primarily on effective technology integration and technology use in PK-12
- Not an experimental design



# Participants

- 18 graduate students (blackboard course) + 20 graduate students (twitter course) in a teacher preparation program
- Age: 18 – 35
- Gender: 52% male vs 48% female students.





# Implementation

- **Pre-class:**

Introduced twitter integration

- **In-class:**

Over 10 weeks out of 13, a post/week required on Twitter/Blackboard

Instructor modeling of tweeting occasionally

- **After-class:**

End of course survey

(non-exist for the Blackboard course)



# Quantitative Data Analysis

**Data Sources:** Discussion forum post VS. Student Tweets

- Total # of post
- # of posts per person
- # of post per week
- # of post by week



# Data Analysis

## Data Sources: Student Tweets

Codes	Indicators	Example of Tweet
KF – knowledge- factual	<ul style="list-style-type: none"><li>• Knowledge of terminology</li><li>• Factual details and elements</li></ul>	The term Digital Age in education is referring to how integrated technology has become into teaching and student life. #tled617
KC – knowledge- conceptual	<ul style="list-style-type: none"><li>• Classification and categorization</li><li>• Generalizations</li><li>• Knowledge of theories</li></ul>	The TPACK framework helps teachers understand how their knowledge of technology can help them improve learning in the classroom. #tled617
KP – knowledge- procedural	<ul style="list-style-type: none"><li>• Criteria for determining when to use appropriate procedures</li><li>• Relates to content</li><li>• Knowledge of techniques</li><li>• Knowledge of methods</li><li>• Knowledge of subject-specific skills</li></ul>	Authentic, student-centered learning occurs when students create; allowing students to incorporate all levels of Blooms #tled617



# Data Analysis

## Data Sources: Student Tweets

Codes	Indicators	Example of Tweet
KM – knowledge-meta-cognitive	<ul style="list-style-type: none"><li>• Prior knowledge</li><li>• Orientation to instruction</li><li>• Strategy towards learning</li><li>• Self-regulation of learning</li><li>• Error-checking</li></ul>	For collaborate learning, I would start with targeted groupings in a low-tech environment. Then add tech as it lends itself useful. #tled617
S – social	<ul style="list-style-type: none"><li>• Expressions of emotion</li><li>• Use of humor</li><li>• Self-disclosure</li><li>• Quoting others</li><li>• Complimenting, cohesive looping</li><li>• Consensus building</li></ul>	Made a twitter for #TLED617 I might be too old for this!



# Data Analysis

## **Data Sources:** End-of-class Surveys

6-point Likert scale questions:

- their actual participation level
- overall perception
- views of their learning experience

Open-ended questions were also included allowing participants to offer explanations and reasoning behind their ratings, as well as provide comments elaborating on their quantitative ratings.



# Preliminary Results



# Results

## Quantitative

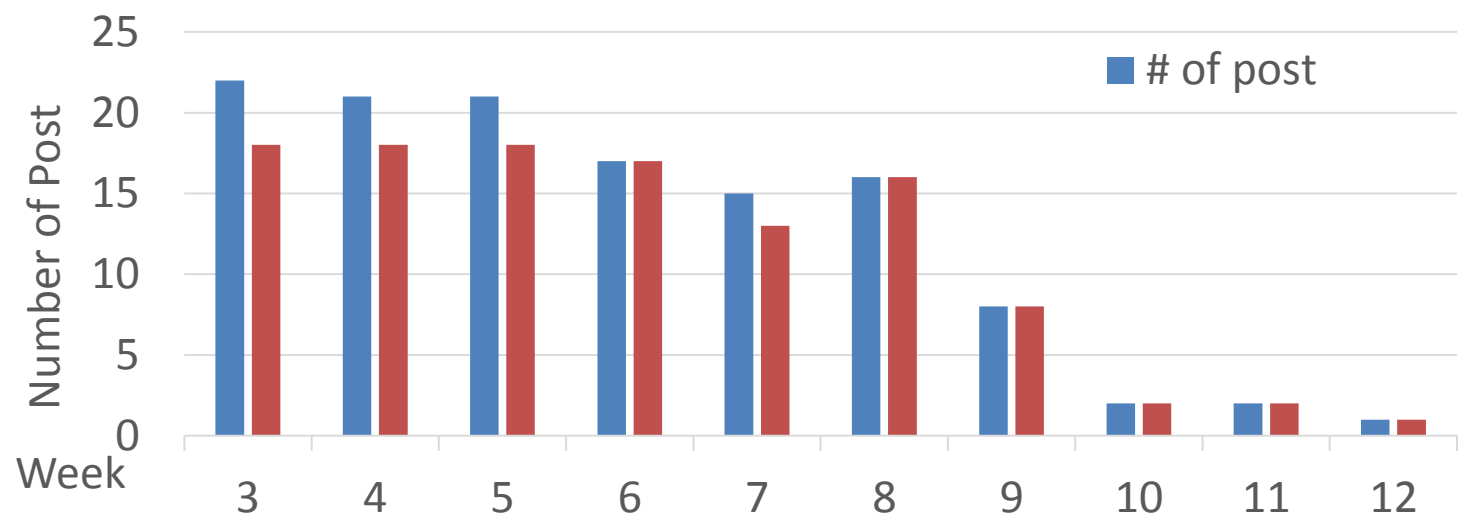
	N	Total # of post	# of posts per person	# of post per week
Discussion forum	18	125	6.9	12.6
Twitter	20	209	10.5	14.8



# Results

## Quantitative

Quantity of Post in Discussion Form



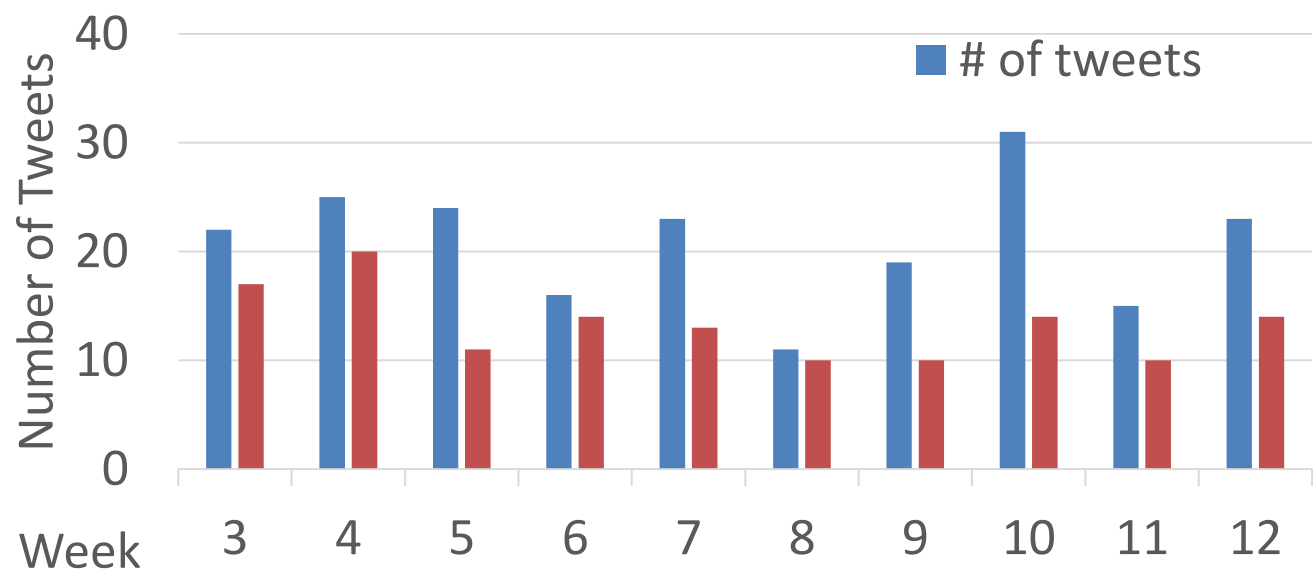




# Results

## Quantitative

Quantity of Tweets





# Student Perceptions

#	Overall Perception	N	Mean	SD
1	I enjoyed the use of Twitter as a reading discussion tool.	20	4.60	1.57
2	If given the chance, I am willing to reuse Twitter for discussion activities.	20	4.70	1.63
3	I prefer Blackboard discussion forum to twitter for such reading discussion and discussion activities.	20	3.15	1.76
4	I am satisfied with my experience using Twitter in the discussion activity.	20	4.80	1.58



# Student Perceptions

#	During this class, I have used Twitter to	N	Mean	SD
1	write up my response to the discussion question.	20	5.50	0.89
2	search and read my classmates' tweets	20	4.70	1.53
3	provide comments and reply to my peers' tweets.	20	4.10	1.68
4	share my opinion and make them available to the general public	20	4.75	1.65
5	engage in a discussion with my peers.	20	4.10	1.55
6	engage in a discussion with people that I don't know on Twitter.	20	3.05	1.47



# Student Perceptions

#	Statements	N	Mean	SD
1	The Twitter-supported discussion activity helped me articulate my own understanding of the reading material.	20	5.00	1.21
2	The Twitter-supported discussion activity helped me focus on learning the topic.	20	4.85	1.46
3	The Twitter-supported discussion activity helped enhance critical thinking.	20	4.80	1.28
4	I had a lot of fun participating in Twitter-supported discussion activity.	20	4.50	1.67
5	The Twitter-supported discussion activity helped me to interact with my classmates.	20	4.45	1.43
6	I was highly involved in the Twitter-supported discussion activity.	20	4.40	1.43



# Results

## Coding of Tweets

Codes	Type of knowledge	#
KF	knowledge-factual	12
KM	knowledge-conceptual	39
KP	Knowledge-procedural	36
KM	knowledge-metacognitive	24
S	knowledge-social	3



# Open-ended questions: Perceptions of Twitter

- 18 out of 20 of students viewed Twitter in a positive light

## Students' comments:

- ease-of-use: was easy for students to review their peers' posts in a coherent format, interacting with them using the @ symbol.
- A user-friendly, quick, and convenient lightweight tool
- global outreach, flexibility
- hold diverse features conducive to cultivating interactivity and connectivity (@ symbol, "like" function, and "reply to" and "retweet" button).



# Open-ended questions: Twitter VS. Blackboard

**Pro Twitter:** “easier and faster to follow conversations” and “easy to find other opinions to review and discuss.”

*“Twitter was a quick and easy way to post our responses, and more importantly, see our classmates' responses all in one place in our Twitter streams, versus in Blackboard where you have to click on each post to read and respond. Also the ♥ button was a quick way to give immediate feedback.”*

**Pro Blackboard:** *“Blackboard is checked regularly as a student. It is something that is engrained in you early on in college. If you do not regularly use Twitter it is more difficult to get the habit of doing so.”*

# Questions?

Tian Luo,  
Assistant Professor,  
Old Dominion University  
[tluo@odu.edu](mailto:tluo@odu.edu)

Helen Crompton,  
Assistant Professor,  
Old Dominion University  
[Crompton@odu.edu](mailto:Crompton@odu.edu)

