Is the Backchannel Enabled? Using Twitter at Academic Conferences

Bodong Chen

Ontario Institute for Studies in Education, University of Toronto

1. Twitter

Twitter, created in 2006, is a real-time information network or micro-blogging service that enables users to send and read each other's messages, which are called "tweets."

Four main ways for users to interact:

- Retweets: A user can share a tweet of another user by "retweeting" that tweet. The new post usually follows the syntax of "RT @original_user tweet_text_body."
- @replys or mentions: An @reply is a tweet that begins with @username which addresses the receiver of this message, while a mention is a tweet that contains @username anywhere in its body. Either an @reply or a mention is public and accordingly can be accessed by other users.
- Direct Messages: A direct message is a private corresponding between only its sender and recipient.
- Hashtags: Users can group together tweets with mutual interests or topics using hashtags—words or phrases prefixed with a pound sign (i.e. "#"). It provides a way of aggregating tweets and enables users to find people and communities with the same interests.

2. Using Twitter at Conferences

2.1. Drawbacks in traditional conferences

- "Front-back" areas (Ross et al, 2010).
- Feedback lag, stress for asking questions, and participation decrease caused by the "single speaker paradigm" (Anderson et al 2003, Reinhardt et al 2009).

2.2. Previous research about using Twitter at conferences

- Who use Twitter at conferences? (Reinhardt et al, 2009)
- Why they use Twitter at conferences? (Ross et al, 2010)
- Types of interaction on Twitter (McNeill, 2009; Ross et al, 2010).
- Effects of using Twitter at conferences (Letierce et al, 2010; McNeill, 2009; Ross et al, 2010).

3. Method

3.1. Data

- 7 academic conferences, 2009-2011
- Convenience sampling, but with an effort to represent different research fields and conference scales
- 8073 tweets, by 1221 distinct users

3.2. Data Analysis

- Descriptive analysis on Twitter usage
- Visualization of Twitter interactions
- Social Network Analysis

4. Findings

4.1. Overview of Twitter usage

Table 1
Summary of Twitter usage in all conferences

	User #	Tweets			Retweet		@Reply	
		Sum	*M*	*SD*	*M*	*SD*	*M*	*SD*
All cases	1221	8073	6.61	20.26	1.16	5.13	.70	2.83
MLA09	383	2031	5.30	14.10	1.13	4.82	.60	2.25
cni10s	94	477	5.07	12.76	.64	2.50	.20	.63
edmedia	226	687	3.04	6.69	.85	5.66	.43	2.95
CUPO	80	963	12.04	26.72	.86	1.79	1.34	4.45
npc2010	117	795	6.79	17.04	.73	3.20	.50	1.01
geoinst	106	1758	16.58	48.80	1.26	4.00	1.35	3.56
lak11	215	1362	6.33	14.13	2.06	7.53	.95	3.54

Three categories:

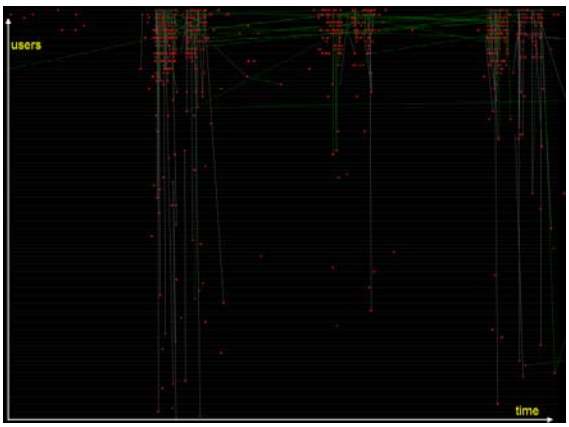
- *CUPO* and *geoinst*: high average tweet per user, but with great variance; retweets and messages per user are low.
- *lak11*: high percentages of retweets and messages.
- *MLA09*, *cni10s*, *npc2010*, and *edmedia*

Participation distribution: “80-20 rule”

4.2. Discourse dynamics on Twitter

Timeline and interaction visualization:

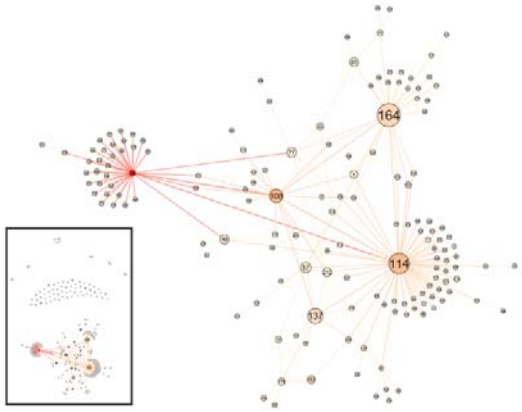
- Virtual discourse happens in parallel with conference events.



- Most retweets stem from active users.
- Retweeting usually happens more instantly than replying or mentioning.
- Lack of sustaining interactions.

4.3. Social networks and user types

Social network visualization of #edmedia:



User types identified by cluster analysis:

- “Engine participants”
- “Pop-stars”
- “Lonely twitterers”
- “Peripheral players”

5. Implications and Future Directions

Implications

- Expect various levels of participation
- Understand types of users and look for ways to meet their different needs
- Design activities or tools to take advantage of close correspondence between tweeting and conference events
- Look for an effective way to keep ideas alive in the Twitter discourse

Future work:

- Analysis of discourse on Twitter
- Usable interactive analytic tools
- Information diffusion and participation expansion