



acebook for Undergrads  
A Guide to Data Collection and Good Practice

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accompanying blog post at [www.gotoknow.org/posts/567996](http://www.gotoknow.org/posts/567996)

rational



is common for students

mainly for social reasons

... chats about university experiences and events

... talks about practical and academic information

university students use Facebook mainly for social reason (Madge, Meek, Wellens, & Hooley, 2009).

conversations tended to be comments about recounting experiences or events in the university, exchanging of practical and academic information, and discussing about disengagement (Selwyn, 2009).

rational

but scholars believe that  is ...

a space for mentoring

a social learning platform

However, some scholar argued that communication via Facebook can be viewed as mentoring activities (Schwartz, 2009) and has potential to be a platform for social learning (Ractham & Firpo, 2011; Ractham, Kaewkitipong, & Firpo, 2012). Students believe that Facebook could be a tool to facilitate learning (Kabilan, Ahmad, & Abidin, 2010).

rational

students also believe that  could be used to facilitate learning

However, some scholar argued that communication via Facebook can be viewed as mentoring activities (Schwartz, 2009) and has potential to be a platform for social learning (Ractham & Firpo, 2011; Ractham, Kaewkitipong, & Firpo, 2012). Students believe that Facebook could be a tool to facilitate learning (Kabilan, Ahmad, & Abidin, 2010).

# setting

a blended learning introductory programming course



Set in a blended learning introductory programming course, this study aimed to use Facebook as a virtual common room to support social interactions in the classroom.

## participants

students from six semesters

$$n_{2011/1} = 24$$

$$n_{2011/2} = 34$$

$$n_{2012/1} = 24$$

$$n_{2012/2} = 38$$

$$n_{2013/1} = 40$$

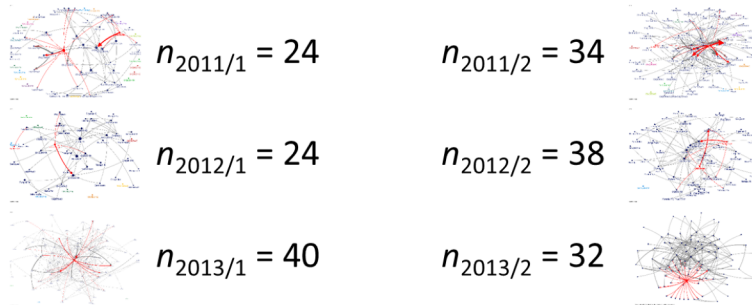
$$n_{2013/2} = 32$$

Three-year (i.e., six semesters) data set ( $n = 192$ ) were collected and analyzed from academic years 2011 to 2013 using NodeXL, an open-source template for Microsoft Excel for network graphs study (Smith et al., 2009). Overall directed graph metrics including vertices, edges, connected components, and graph density were calculated using NodeXL (visualizations of these network graphs can be found at <http://www.gotoknow.org/posts/567996>).

# analysis

tools: NodeXL + SocialNetImporter

output: directed (interaction) graphs of six semesters



<http://nodexl.codeplex.com/>

<https://socialnetimporter.codeplex.com/>

<http://www.gotoknow.org/posts/567996>

# findings of directed graphs

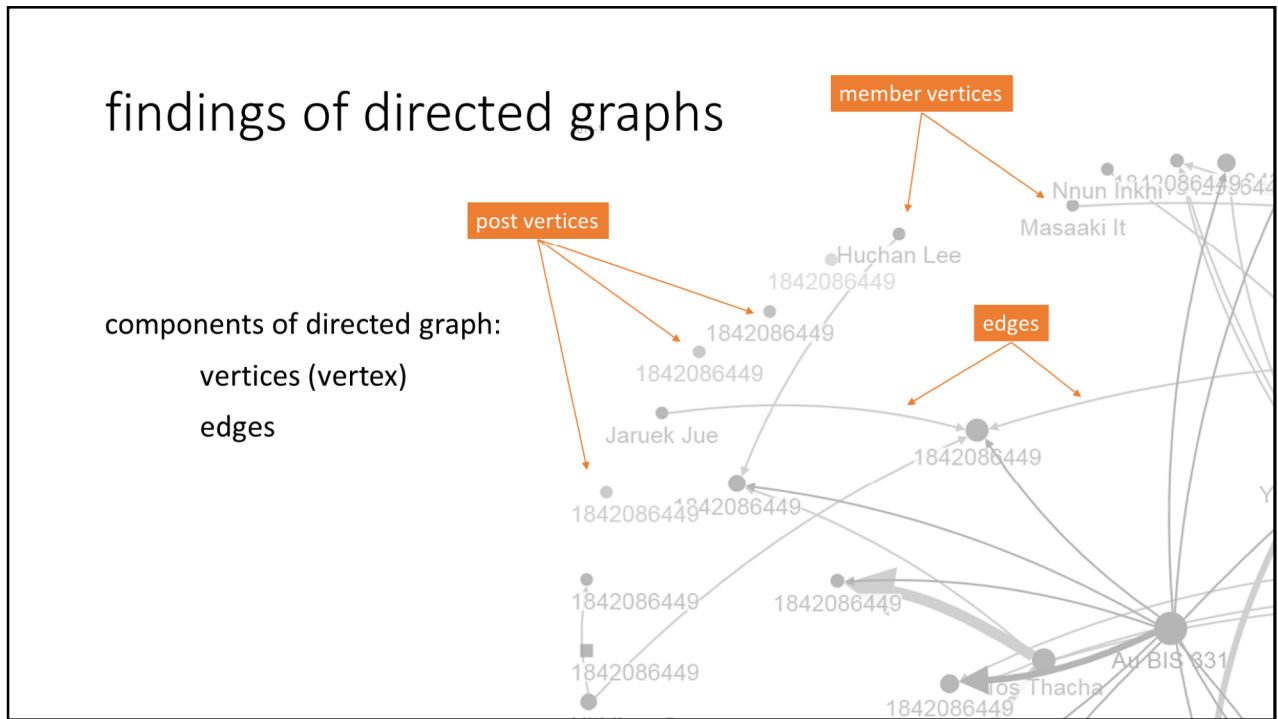
components of directed graph:

- vertices (vertex)
- edges

post vertices

member vertices

edges





## findings – semester 2011/1

$n = 24$

vertices = 68

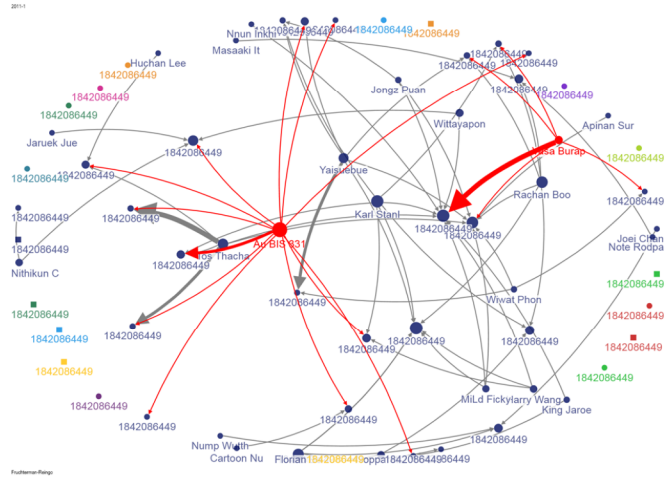
edges = 75

connected components = 19

average interaction = 3.13

**instructor edges = 17 (22.67%)**

density = 0.016



The graph density values – proportion of possible edges that are actually present in the graph with all possible edges is equal to 1.00 (Wasserman & Faust, 1994) – continuously increased over time. The values grew from 0.016 in the first semester to 0.031 in the last semester.

## findings – semester 2011/2

$n = 34$

vertices = 90

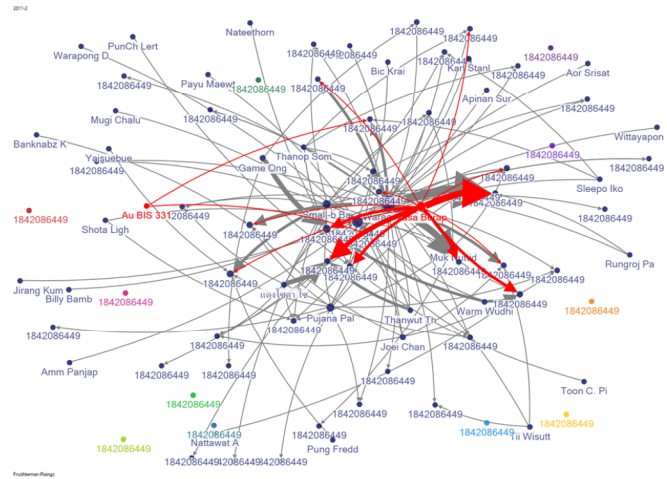
edges = 163

connected components = 12

average interaction = 4.79

**instructor edges = 16 (9.82%)**

density = 0.018



# findings – semester 2012/1

$n = 24$

vertices = 48

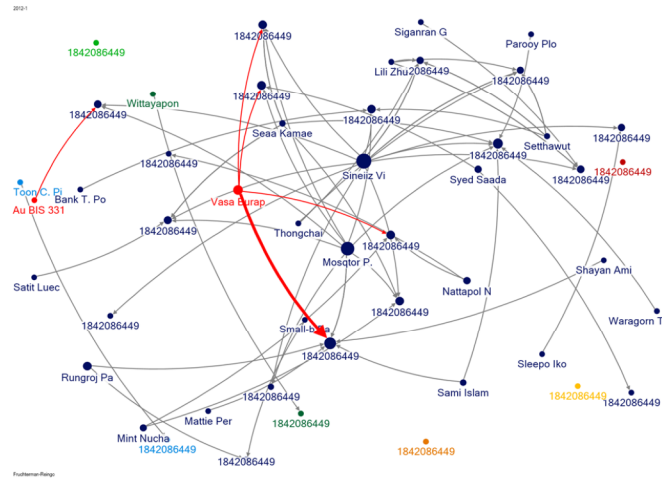
edges = 67

connected components = 7

average interaction = 2.79

**instructor edges = 5 (7.46%)**

density = 0.026



## findings – semester 2012/2

$n = 38$

vertices = 57

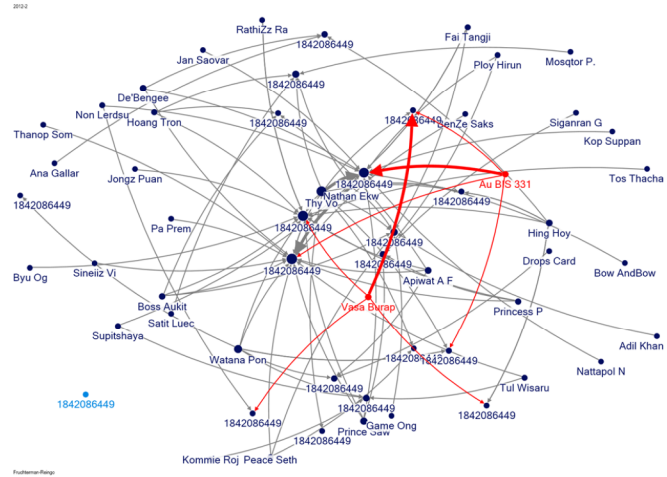
edges = 94

connected components = 2

average interaction = 2.47

**instructor edges = 8 (8.51%)**

density = 0.027



## findings – semester 2013/1

$n = 40$

vertices = 91

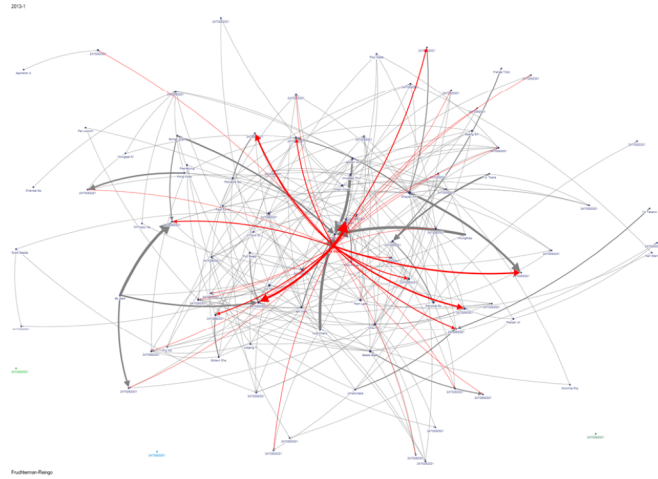
edges = 276

connected components = 1

average interaction = 6.90

**instructor edges = 35 (12.68%)**

density = 0.032



## findings – semester 2013/2

$n = 32$

vertices = 95

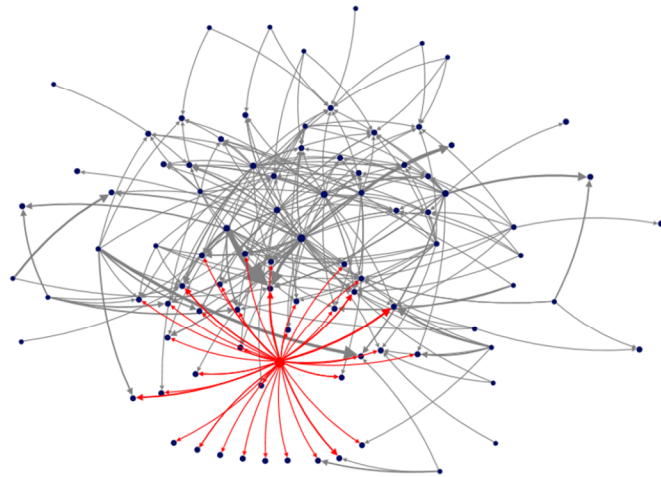
edges = 297

connected components = 3

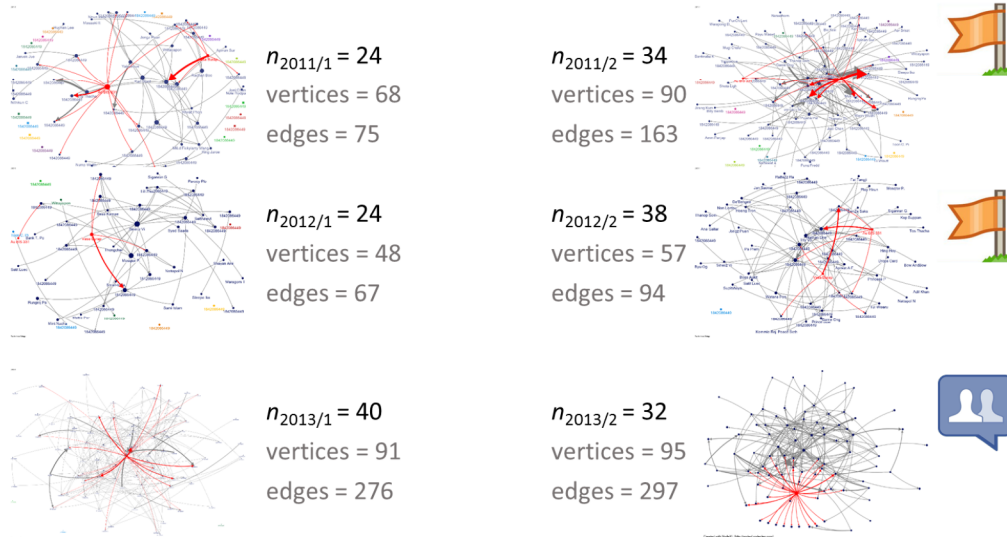
average interaction = 9.28

**instructor edges** = 40 (13.47%)

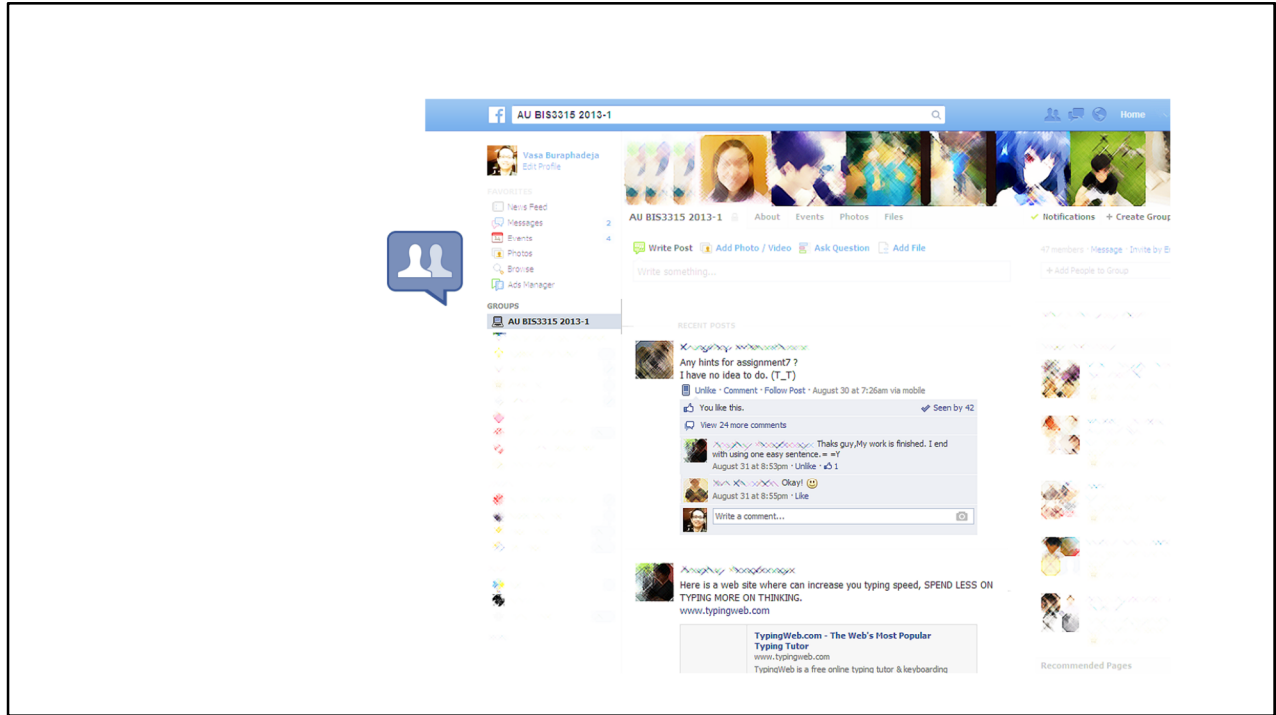
density = 0.031



## findings

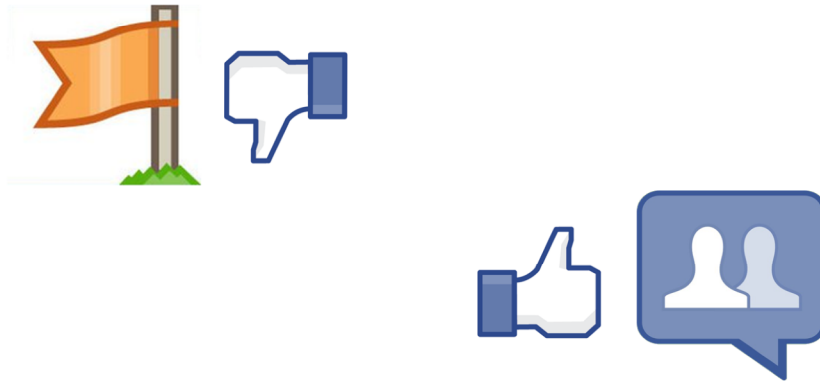


Results indicated that when Facebook Page was used as a virtual common room (from semester 2011/1 to semester 2012/2), overall metrics were lower than using Facebook Group (from semester 2013/1 to semester 2013/2). Specifically, total edges (i.e., number of interactions) of the six semesters were as follows: 2011/1 = 75, 2011/2 = 163, 2012/1 = 67, 2012/2 = 94, 2013/1 = 276, and 2013/2 = 297. Interactions within the virtual common room in Facebook Group tended to form more connected components among vertices (i.e., members of the group). For four semesters that Facebook Page was utilized, there were 19, 12, 7 and 2 components respectively. For the last two semesters that Facebook Group was used, there were 1 and 3 components respectively. A small number of components implies that members in the network can connect to any member, regardless the distance between them.





## conclusion



The results suggested that Facebook Group is a better option for creating classroom virtual common room, perhaps due to the nature of the service that resembles learning community. That is, it creates a private space for members with the same interest to interact and share resources. Future research might delve into types of content shared on Facebook Group to better understand how students respond to different types of social interaction in virtual common room.

## question or feedback?

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