

Topic Analysis of Messages Posted in Flipped Learning Network between 2012-2014

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For the past decade, we have witnessed numerous instructional models and technological applications come and gone with great anticipation. Still, teachers are struggling to motivate and engage students for meaningful learning. Now many researchers and practitioners take notice of an alternative instructional model called “flipped learning.” In this model, instead of delivering direct instruction, teachers make lessons available to students in advance and invest their time and efforts to actively engage students and provide them with individualized support during the class. Flipped Learning Network (FLN) is an online community of practice that provides the knowledge, skills, and resources to successfully implement the flipped learning model. By 2013, its members have grown to over 12,000 educators worldwide and they exchange ideas and resources using the FLN discussion boards. The purpose of this study was to analyze the messages posted by members of FLN between 2012 and 2014 and to propose research agenda related to flipped learning.

Keywords: flipped learning, Flipped Learning Network (FLN), topic analysis

Introduction

Recently, a new instructional method called “flipped learning” has received much interest among school teachers and educational researchers alike. As its name indicates, “flipped” learning is designed to convert the typical teaching and learning flow to maximize the use of limited class time and to engage students in active learning. In this approach, students are given online learning materials to review before taking classroom lessons so that the teacher can devote more class time to lead class discussion, provide one-on-one feedback, or guide small teams through team projects (Sams & Bergmann, 2013; Yarbrow, Arfstrom, McKnight, & McKnight, 2014). Since flipped learning was first introduced in 2007, this relatively simple idea has created quite a buzz all around the world. In Korea, however, due to the heavy emphasis on standardized tests and extreme workload for both teachers and students, flipped learning is still considered to be a “foreign,” or naive, experiment that requires too much work and efforts from both teachers and students (Lee, 2013; Lee, Kim, & Kim, 2014). To this end, the study aimed to explore practical concerns and problem-solving tips by analyzing the messages posted to the Flipped Learning NetworkTM (FLN).

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Founded in 2012 by Jonathan Bergmann and Aaron Sams, the pioneers of flipped learning, the mission of this non-profit organization is to provide educators with the knowledge, skills, and resources to successfully implement flipped learning in their classrooms. The goals of the FLN include 1) providing professional learning opportunities on flipped learning; 2) conducting and disseminating relevant research on flipped learning; and 3) acting as the clearinghouse for distributing best and promising practices for current and future “flipped” educators. As shown in Figure 1, the FLN offers an open, unmoderated discussion forum for its members and anyone who wants to participate can post questions, comments, and replies (Information regarding subscription and use of the FLN discussion forum can be found at the FLN website at <http://flippedlearning.org>).

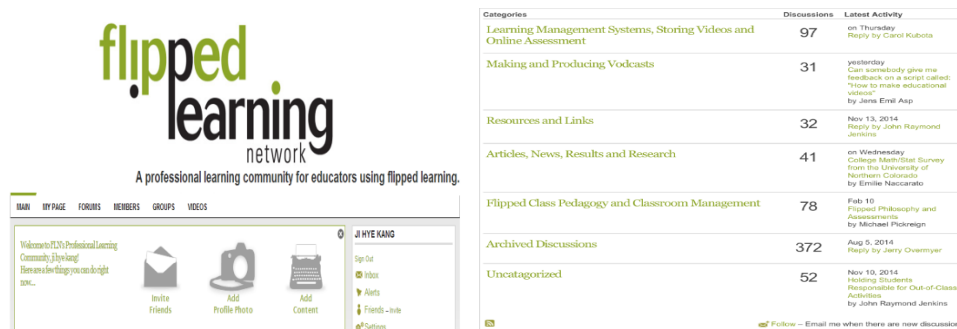


Figure 1. The main menu of FLN and categories of discussion forum

By analyzing the messages posted to the FLN, a community of practice with members who are experienced in flipping their classes or novices with great deal of interest in flipped learning, we expect to identify trends and issues related to the flipped learning.

Research Methods

Data Collection

Data was obtained from messages posted to the FLN online discussion forum. There were 703 messages posted between January 2012 to December 2014. Among them, 131 messages were selected for further analysis. Relating linkages by message title using the aggregated message repository was a rather complicated and time consuming process, and one co-author gathered and classified each posting on the forum and later the other co-author reviewed and discussed coding schemes with her. Postings were first classified as either queries or responses and only the queries that further evolved through subsequent, meaningful discussion and member comments were gathered for further analysis. In this way, messages such as “thank you” or “I agree” were excluded as well as isolated ones that have not been answered or commented by other members.

Data Analysis

Topic analysis combined with the constant comparative method (Lincoln & Guba, 1985) was used to examine the manifest content of the messages. First, the researchers carefully reviewed each message posted to the FLN to identify and code any interesting topics in open coding. Second, the different topics generated earlier were compared with additional new messages and sorted into potential coding themes and all messages relevant to each potential theme were collated. In this continuous ongoing process, 131 messages were coded according to the five major categories (i.e., infrastructure, course design, course delivery, media & resources, and others).

Results

Message Volumes by Year

Figure 2 shows the number of message posted to the FLN between 2012 and 2014. One would expect that the number of postings would increase assuming its growing popularity worldwide, but actually, the volume of postings has been decreased over the years if we just look at the number of new postings each year. This might be due to the fact that the earlier postings still remained active, accumulating new replies each year.

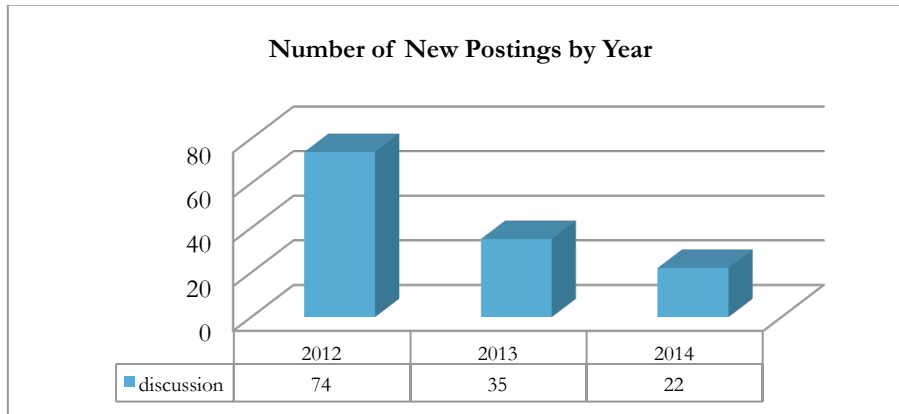


Figure 2. Volume of FLN postings by year

Geographic Focus

Figure 3 shows the predominance of FLN members in the United States. When we analyzed the authors of 131 messages for whom regional information was available, 96 authors (79%) were from the U.S. This is perhaps understandable, given that flipped learning was first introduced and gained acceptance in the U.S. 14 (12%) were from France, Hong Kong, Korea, Malaysia, Malta, Norway, Spain, Sweden. Still, the open forum represented 11 countries and we expect that more members outside the U.S. would participate in the future as flipped learning gains more popularity worldwide.

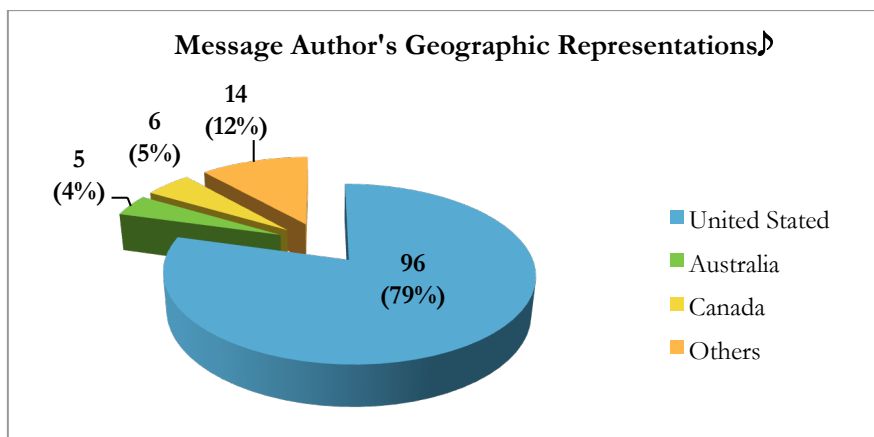


Figure 3. Message author's geographic representation

Discipline and Curricular Focus

All 131 messages analyzed in this study were discussing issues that are relevant to school contexts, and when we examined their disciplinary focus more closely, the messages could be further classified by the teaching subject areas as shown in Figure 4. It was pretty obvious that flipped learning was more popular

among math and science teachers. According to a recent survey by FLN (2014), however, the subjects taught in a flipped classroom seem to expand greatly to include more humanities classes.

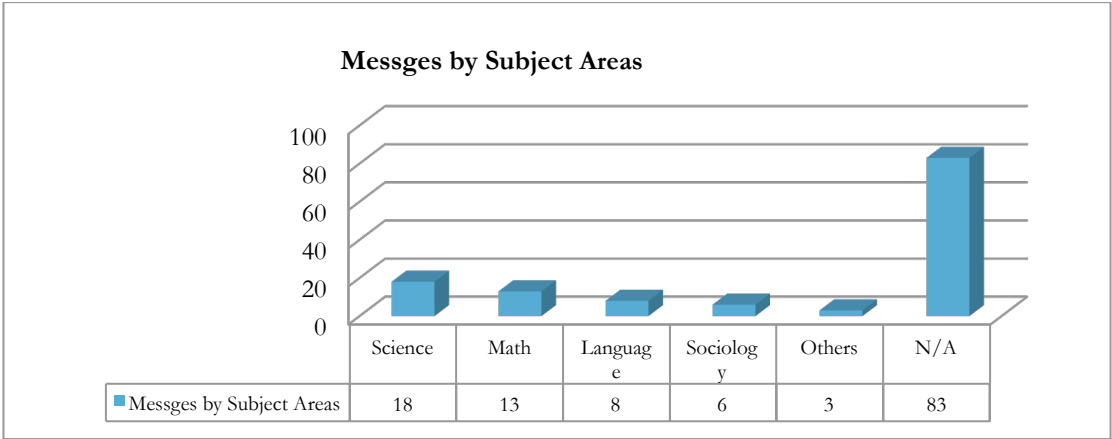


Figure 4. FLN messages by subject areas

Thematic Focus

As mentioned earlier, the authors developed 5 main categories to code the 131 messages selected for analysis in this study (to see the coding categories and examples of messages under each category, see Table 1). As shown in Figure 5, the frequencies of messages coded under each category are like the following: 1) media & resources (40 occurrences or 31%); 2) course delivery (31 occurrences or 24%); 3) infrastructure (20 occurrences or 15%); 4) course design (19 occurrences or 14%); and 5) others (21 occurrences or 17%). The fact that flipped learning, by its definition, inevitably includes the use of media or technologies to create online learning material probably explains the FLN members’ heavy emphasis on the media/resource and course delivery.

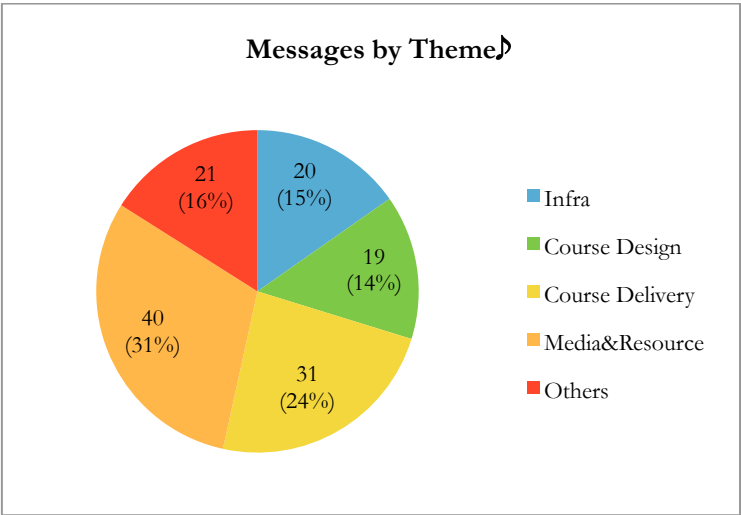


Figure 5. FLN messages by coding categories

Table 1.
Coding Categories and Examples of Messages

Coding Categories	Example of Postings
infrastructure	"...My biggest question now in thinking about the class model is how do you deal with Internet equity issues ... meaning how do you handle lower income students who do NOT have Internet (or perhaps even computer) access at home?"
course design	"I think I want to hybridize it - doing one day/week of traditional lecture and then two days/week of flipped activities. Has anybody tried this? Suggestion?"
course delivery	"I am curious about how to deal with late work and with students who don't follow along with my pod-casts. Any other tips or advice would be welcome as well."
media & resources	"Would like to start a discussion on your favorite apps for flipping in order for us to learn from each other. What are your favorite apps and websites?"
others	"Last year I began flipping my chemistry classes.... Is there someone who can tell me the first 3 years are tough - like being a new teacher all over again and some ideas on being a better communicator - I thought I ready for these questions, but clearly I was not. Thanks in advance for all of your help!"

Discussion and Conclusions

To explore practical concerns related to flipped learning raised by the novices and problem-solving tips offered by the early adopters who managed to successfully implement the flipped learning model into their classroom teaching, the study analyzed messages posted on the largest online network promoting research and practice on flipped learning. The analysis of messages posted on the FLN revealed that the majority of users have a media-oriented, rather than instructional design-oriented, emphasis when they approach flipped learning. Despite the efforts of FLN leadership who explicitly declared that flipped learning should be distinguished from a flipped classroom, many FLN members used the terms "online videos" and "flipped learning" almost interchangeably as shown in the following message: "All of our classes for the 2011-2012 will be flipped. Presently, we are creating screen captures of all of our content(s)." According to the official guidelines set by the FLN (2014), "many teachers may already flip their classes by having students read text outside of class, watch supplemental videos, or solve additional problems, but to engage in flipped learning, teachers must incorporate the four pillars (i.e., Flexible environment, Learning culture, Intentional content, Professional educator)." However, the most frequently mentioned topic among the messages posted to the FLN was related to the media and resources for converting classroom lectures into online videos. This discrepancy between the FLN leadership for their emphasis on "flipped learning" and the members requesting for practical tips and resources for a "flipped classroom" indicates two distinct directions for future research on flipped learning. First, we need more instructional design research on how to teach and learn in a flipped classroom, challenging the teachers and instructional designers to go further than just creating online videos to flip their classes. Second, and at the same time, more sophisticated media research on different attributes of various media and their potential benefits in educational settings are in great need to help our practitioners to make informed decisions when they select (or create) learning resources for flipped learning.

Like other studies that analyzed messages posted on listservs (Lasker, Sogolow, & Sharim, 2005), the present study has some limitations due to the nature of data sources gathered from a listserv. First, some members have freely chosen to reveal their backgrounds (such as majors, professions, and years on the job) in their postings, but otherwise, such background information that might be relevant for our analysis is not available for many of those who posted. Thus any conclusions about differences in messages related to these factors must be interpreted with caution. Second, we only have information from the members of FLN who made postings to the open forum, so our analysis does not include the practical concerns of “lurkers” who are also the members of FLN yet do not post for a variety of reasons.

Still, our analysis of FLN messages suggest that this open forum provides a valuable outlet for people who are interested in and actively practicing flipped learning. It appears to be particularly useful for those who are newly introduced to this instructional method and in need of practical information and resources, but overall, the FLN provides meaningful assistances for members at all stages of expertise in flipped learning. In this online community of practice, novice and experienced members help one another to better understand the flipped learning process and its impact on their teaching and learning with encouragement and reassurance.

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