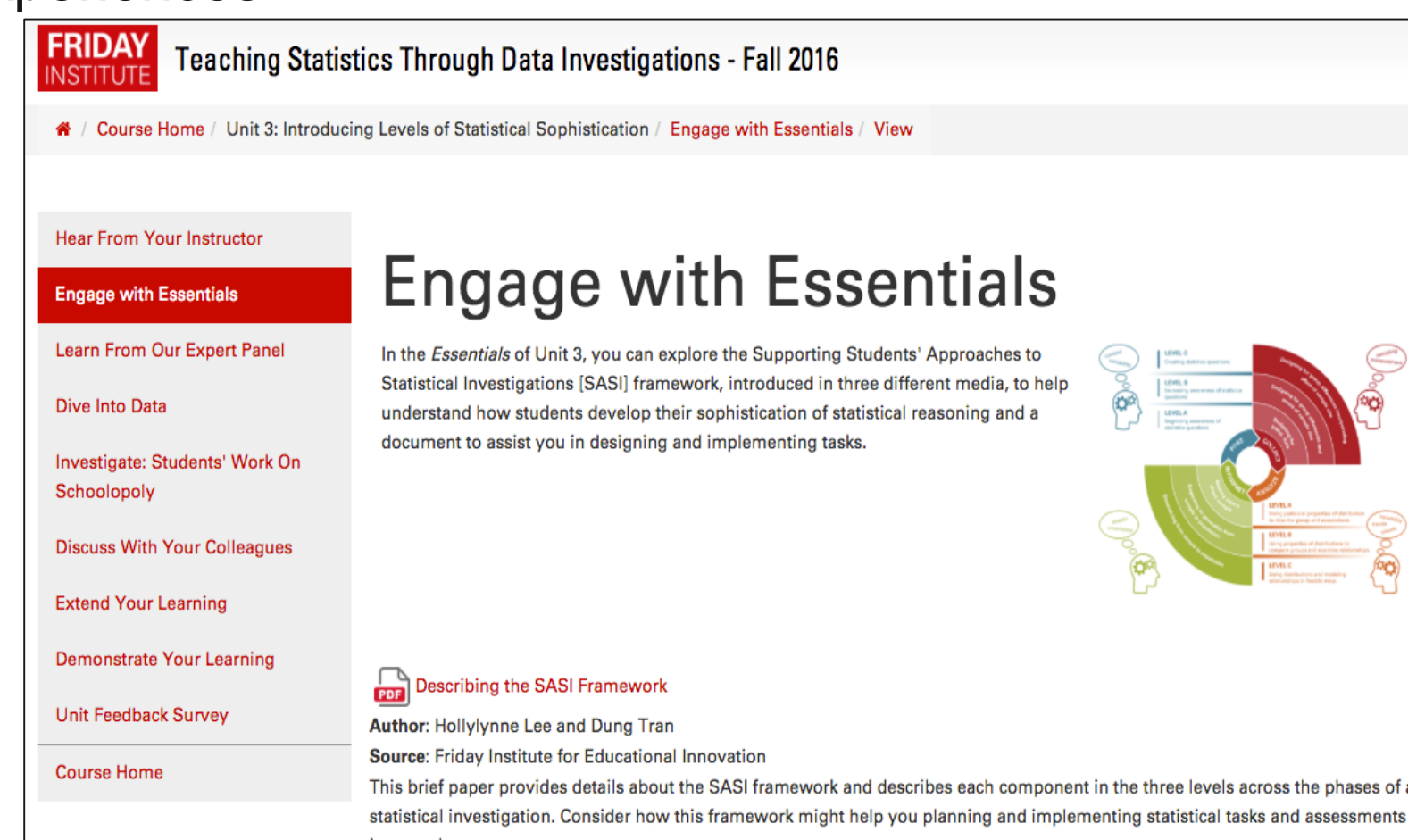


Kemal Akoğlu and Hollylynn Lee, STEM Education Department

1. How do members of professional learning teams (PLT) engage in TSDI (Teaching Statistics through Data Investigations) MOOC?
2. How does PLT members and Non-PLT members completion and development in teaching statistics differ?

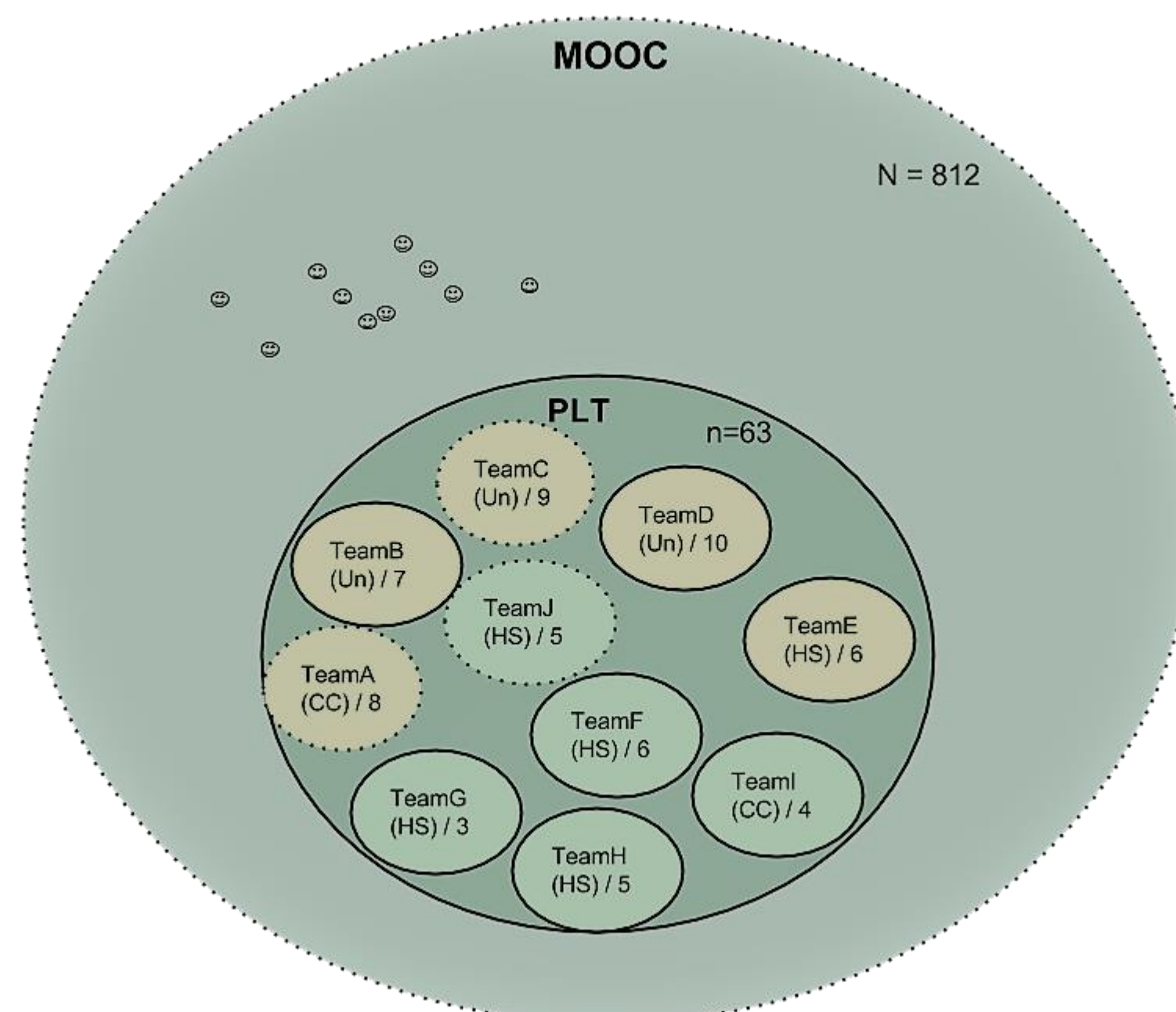
CONTEXT

- Massive open online courses (MOOCs) are popular and offer an accessible way to provide educational resources to teachers.
- Professional learning teams (PLTs) are often used as ways to organize and focus a group of practicing teachers on making changes to particular areas of their practice.
- In Fall 2016 and Spring 2017, 10 PLTs were formed from TSDI MOOC participants
- PLTs met 3-7 times during their MOOC participation, to share about their learning and experiences.



- 63 participants in PLTs during Fall 2016 and Spring 2017.
 - 38 college/university instructors;
 - 20 high school teachers
 - 5 school district leaders
- 18 participants were experienced in teaching 0-5 years, 21 were 6-15 years, and 24 were experienced for more than 15 years.

PLT members participated in MOOC during Fall 2016 and Spring 2017



- This study will describe the ways local teams engaged and provide findings about the effectiveness of using blended professional development to impacting practices of teaching statistics.

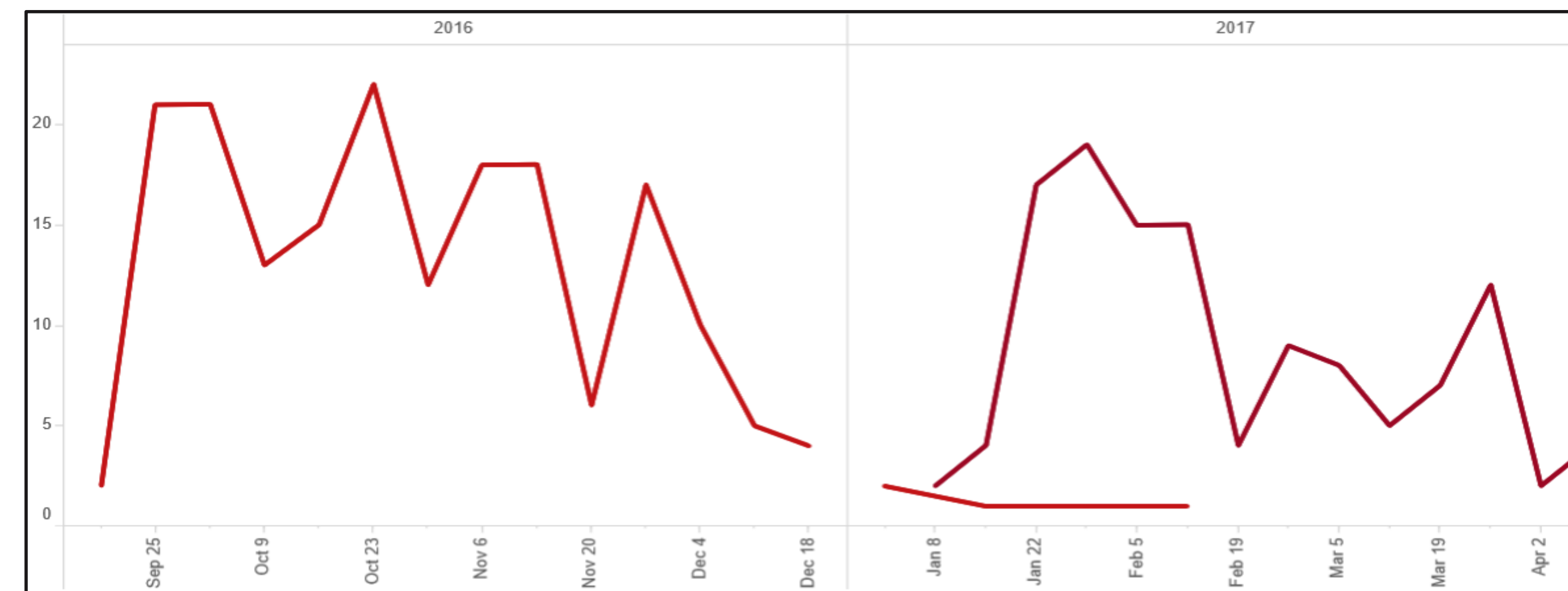


WHAT DO PLTs MEMBERS DO?

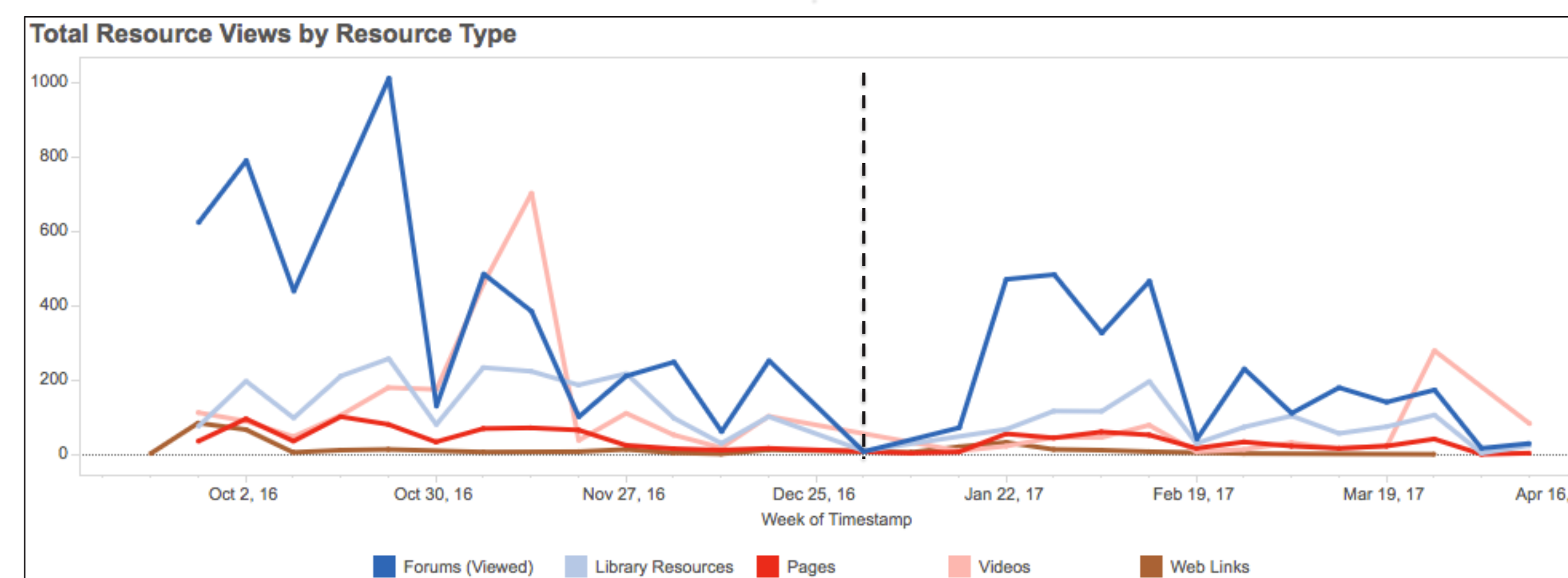
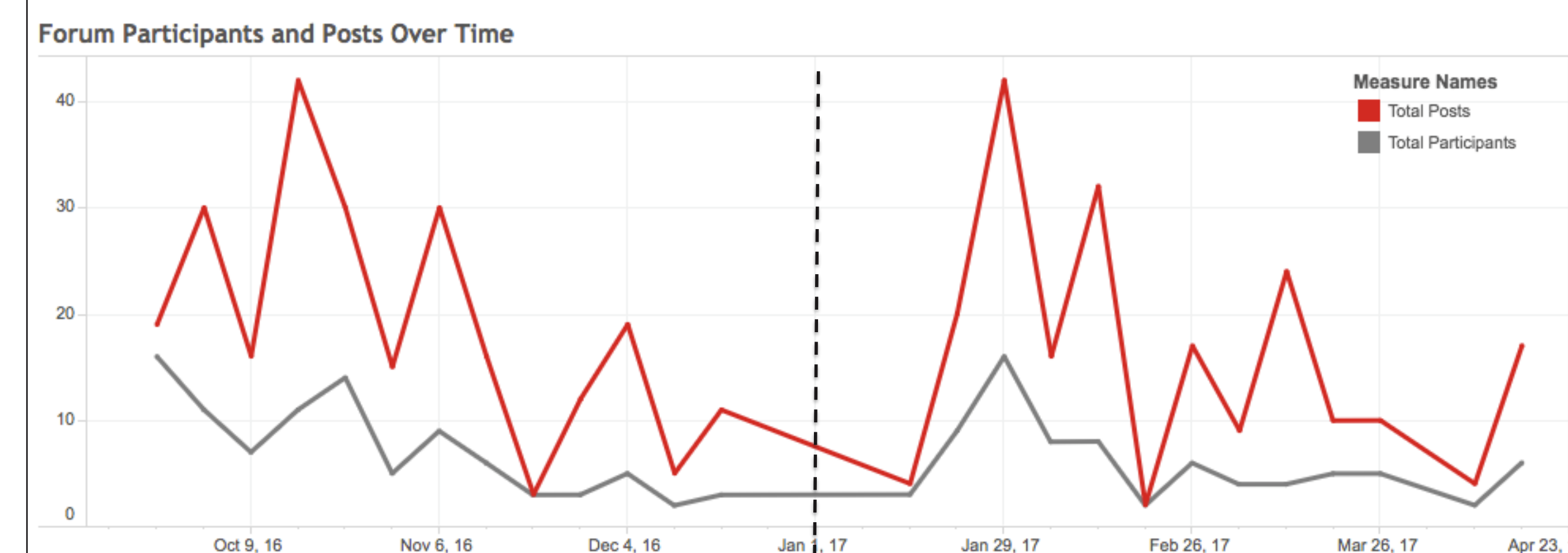
PLTs conducted 3-7 small group meetings as PLT members participated in TSDI MOOC. Their engagement patterns, and impacts on their teaching practices (from their perspective) are examined to describe the experience of participating in both MOOC and PLT.

“Have you attempted to make any changes in your professional practice as a result of your participation?” (Unit 5 feedback survey)	(% YES)	
FALL 2016 (n=18)	50%	
SPRING 2017 (n=20)	76%	
“How effective was this MOOC in preparing you to make positive changes in your professional practice?” (End-of-course survey)	Effective	Very Effective
FALL 2016 (n=10)	50%	30%
SPRING 2017 (n=8)	76%	13%

Number of Participants Accessing the Course (by Week)

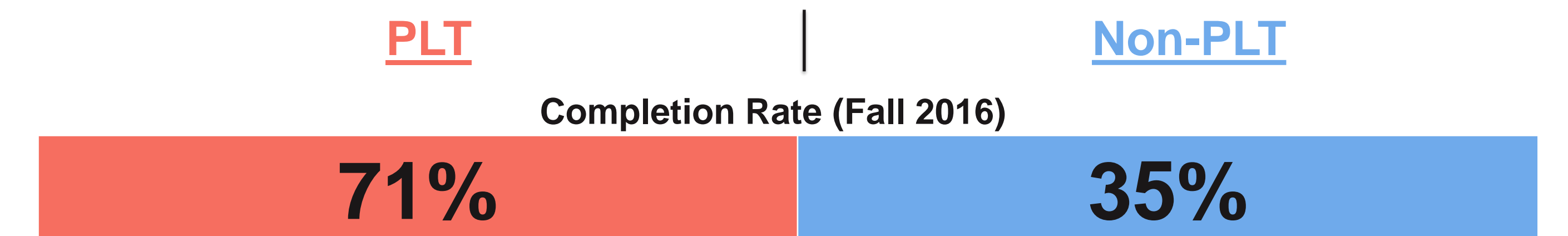


Forum Stats	Total Discussion Threads	Total Posts	Total Participants	Posts/Participant (Avg.)
	253	486	50	9.72

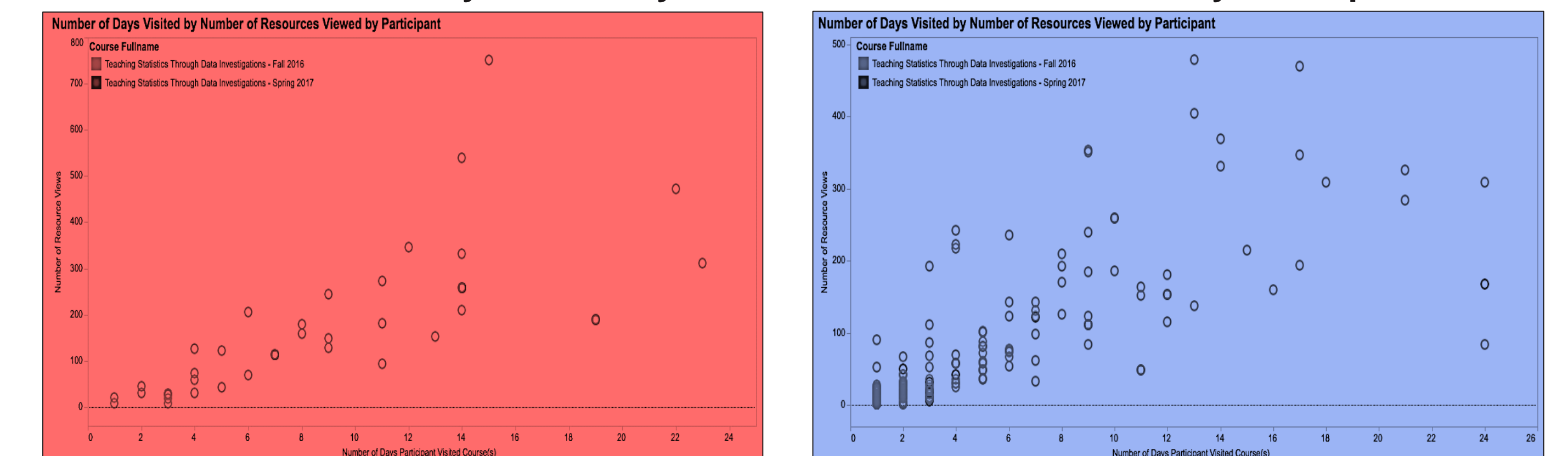


As PLTs participated in the blended professional development project, Non-PLT MOOC participants engaged only in the online course. The differences between both groups' confidence level changes, completion rates, engagement frequencies are examined.

HOW DO PLT MEMBERS COMPARE TO OTHERS ?

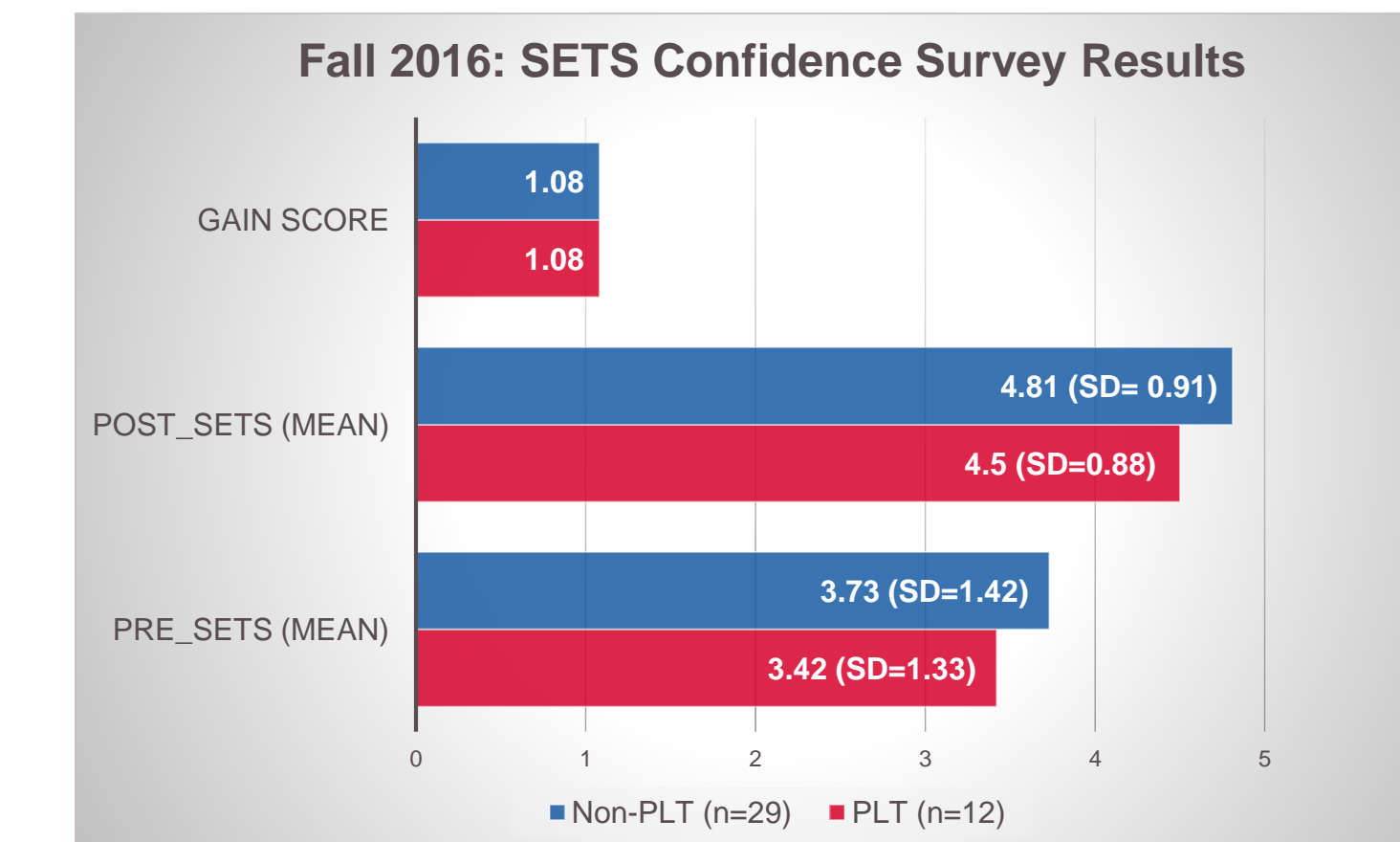


Numbers of Days Visited by Number of Resources Viewed by Participant



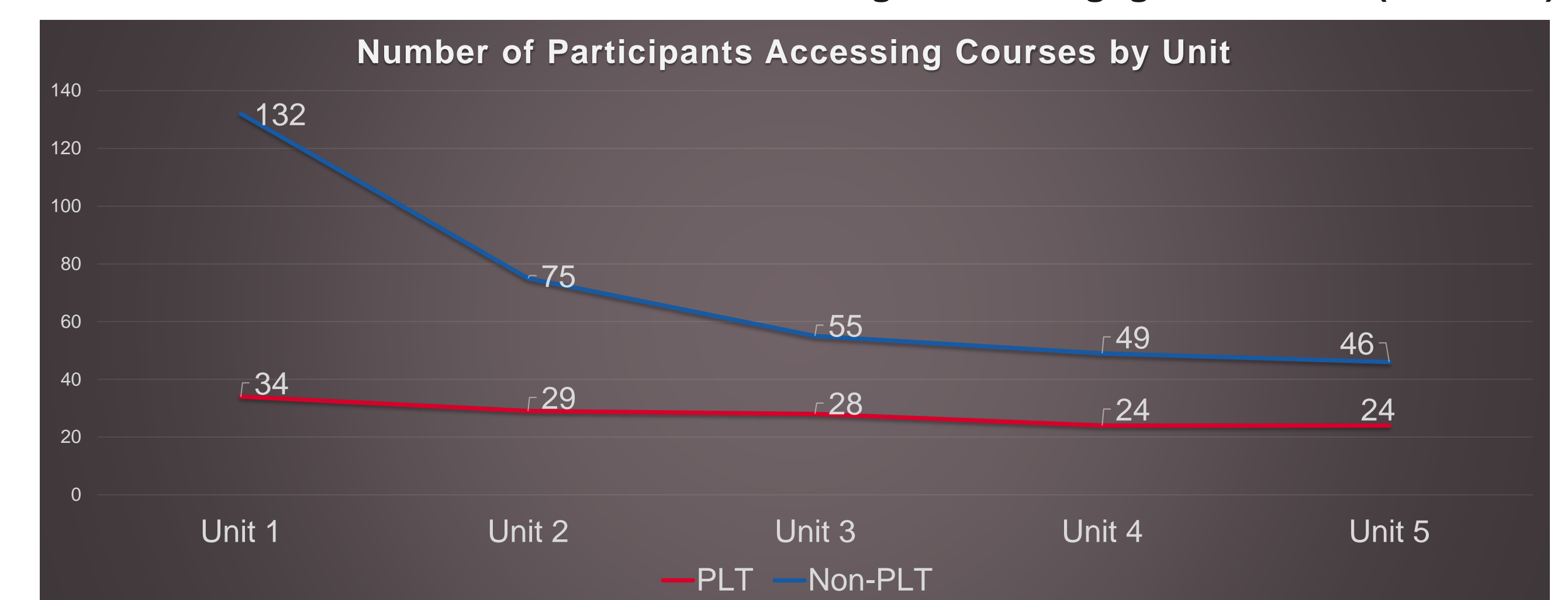
PLT members Vs. Non-PLT members according to change in their confidence

- SETS is a survey to measure participants' confidence to teach 44 different statistics topics and skills, on a scale from 1 (not at all confident) to 6 (extremely confident) was given in Orientation and Unit 5.



- One of the Fall PLT teams was a group of graduate students with no or minimal experience of teaching statistics. Another team was a group of university instructors from sociology and psychology departments. On the other hand, Non-PLTs were mostly active teachers of statistics. As seen, PLTs' Pre-SETS score average was clearly less than Non-PLTs (3.42 < 3.73). However, both groups (PLTs and Non-PLTs) had equal gain scores (1.08). All members who took Pre and Post surveys provided evidence that TSDI MOOC increased their confidence of teaching statistics.

PLT members Vs. Non-PLT members according to their engagement trend (Fall 2016)



“What was the most valuable aspect of this MOOC-Ed?” (Unit 5 feedback survey)

“The resources available in the MOOC and the ideas gained from instructors in my group. Doing the MOOC in a group was definitely better than doing it individually. I learned so much more!”	“Exposure to the framework of statistics and all the different ways to allow students to engage in their own learning as active participants rather than passive ones.”
“The articles, videos, and discussions were very helpful. I was able to build off knowledge from the community found online.”	“The encouragement to use visualization and technology to teach statistical concepts.”
“PLC meetings where ideas were discussed with colleagues.”	“The data sets and articles for follow-up study were great!”