



Yale-New Haven Teachers Institute

Teachers Institute Enhances Student Engagement

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Teachers participating in a Teachers Institute (Fellows) attend seminar sessions in which a university faculty member guides them in learning about a topic, and Fellows develop a curriculum unit on a topic related to their seminar and teach it to their students during the following school year.

The theory of change behind the Teachers Institute approach to teacher professional development posits that the curriculum unit, along with the Fellow's increased content and pedagogical knowledge and the resulting improvements in the quality of instruction, will lead to greater student engagement. Greater engagement will in turn lead to improved learning of the curriculum topic and contribute to higher student achievement.¹

The research literature highlights the importance of student engagement and shows that it is associated with better learning and higher achievement.² In the literature, researchers have reached broad agreement that student engagement consists of at least three interrelated dimensions: behavioral engagement (participation, effort, attention, persistence, positive conduct, absence of disruptive conduct), emotional engagement (sense of belonging, reactions to teacher, classmates, academics, and school), and cognitive engagement (investment in learning, willing to exert effort for understanding complex ideas and mastering difficult tasks).³

Evidence of Student Engagement

This summary draws on data from several sources:

- (1) End-of-program questionnaires completed by Fellows who participated in the Yale-New Haven Teachers Institute between 1992 and 2019;
- (2) A survey of New Haven teachers about curriculum unit use conducted in 2016 and 2017;
- (3) Focus groups conducted with Fellows and other teachers in New Haven, CT in 2017; and
- (4) End-of-program questionnaires completed by Fellows who participated in four National Demonstration Project programs from 1999 to 2002 (Houston, TX; Santa Ana CA; Pittsburgh, PA; and Albuquerque, NM).

Quantitative data were analyzed using descriptive statistical methods, and qualitative were analyzed using Atlas.ti coding software to identify and examine Fellows' statements related to student engagement.

The Yale-New Haven Teachers Institute has accumulated consistent evidence showing that greater student engagement is a key outcome of teacher participation in Teachers Institute seminars. Statements made by New Haven Fellows suggest that when they speak about their students' engagement they are considering primarily behavioral and cognitive engagement.

Fellows Report Higher Student Engagement When They Teach Their Curriculum Unit

Yale-New Haven Teachers Institute Fellows consistently report high levels of student engagement when they teach the curriculum unit they developed in their Institute seminar. When surveyed about how their students responded when they taught their Institute curriculum unit, the majority of New Haven Fellows rated their students' response as "highly engaged". Most of the remaining Fellows reported that their students were "moderately engaged".

Nearly all Fellows and most other teachers in New Haven who implemented Institute curriculum units reported that student attention during the unit and their interest in the topic were the same or higher than

"They showed great interest and the class participation was certainly more active." 2016 Fellow

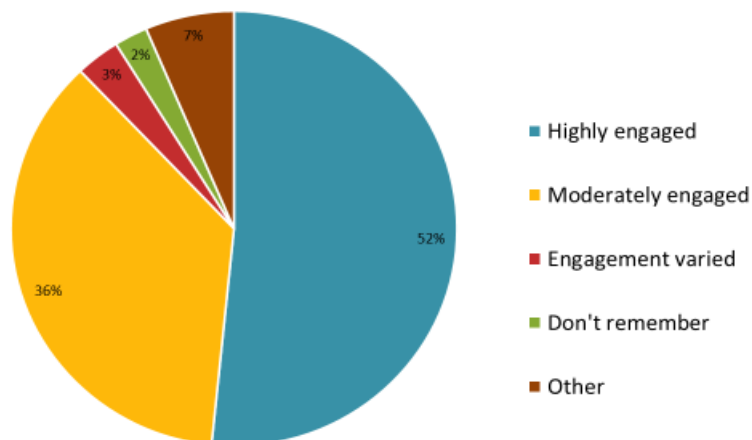
¹ Kisker, E. E. (2018). Updated evidence for the Teachers Institute Theory of Change. *On Common Ground*, Number 16.

² Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality*, vol. 46, no. 3, pp. 517-528.

³ Boekerts, M. (2016). Engagement as an inherent aspect of the learning process. *Learning and Instruction*, vol. 43, pp. 76-83; Fredricks, J. A., Wang, M-T., Linn, J.S., Hofkens, T.L., Sung, H., Parr, A., & Allerton, J. (2016). Using qualitative methods to develop a survey measure of math and science engagement. *Learning and Instruction*, vol. 43, pp. 5-15.

during commercial curriculum units they had used. More than half of Fellows rated both student attention and student interest in the topic higher than during commercial curriculum units. When asked a broad open-ended question about the anticipated effects of seminar participation on their teaching, students, and school (and past effects if the Fellow had participated before), more than two thirds of Fellows highlighted student engagement.

Engagement of Fellows' Students During Institute Units



Source: 2016-2017 Survey of New Haven Teachers

Unit Activities, Tailored Content, and Teacher Enthusiasm and Preparation Engage Students

In their narrative survey responses, many Fellows describe features of their unit or how they teach it that will engage their students. Many highlight hands-on activities, inquiry-based activities, or specific teaching strategies. Some identified activities designed to promote deeper understanding of the content and the skills to apply it, as well as interpersonal skills to enable students to take initiative, think critically and creatively, work collaboratively, and communicate ideas. Fellows report that their Institute curriculum units are more likely to include some of these deeper learning strategies than their teaching does ordinarily.

Sometimes it is the new or different content of their curriculum units that Fellows believe engages their students. Some Fellows noted that their students would be engaged because they designed the activities or content in their unit specifically for their students.

Other Fellows expressed excitement about teaching their Institute curriculum unit and suggested that their enthusiasm will be contagious. They expect their students to respond to the curriculum unit with their own enthusiasm and engagement in unit activities.

Deeper knowledge of the topic and confidence in teaching it, along with more preparation to teach the unit than is usually possible, also enabled some Fellows to engage their students more effectively.

“Student engagement increases. Students are being asked to ‘do’ more; students are required to apply knowledge gained through sustained projects that explore complex problems and aim to contribute to the common good.” *2014 Fellow*

“They knew we were doing something special that I had worked on for them, which seemed to make them more engaged than working on the standard curriculum.” *2015 Fellow*

“Having the opportunity to plan, review, revise, and amend [a curriculum unit] certainly produces a unit that is exciting for me as well as my students.” *2011 Fellow*

“I suspect that some of the power of my Institute based lessons comes from the level of comfort I feel in the acquired knowledge base. I have a deep connection to the material. I have spent an inordinate amount of time reading, thinking, and writing about the material. I imagine my students can feel my connection to the material and I think that makes for some persuasive thinking.” *2005 Fellow*

Fellows Observe Better Learning and Achievement Along with Higher Student Engagement

Not only do Fellows and other New Haven teachers using Institute curriculum units often report that student engagement, attention, and interest are higher during these units, many also report that student motivation to do work and student mastery of the material are higher during Institute units than during commercial curriculum units they have used. Almost none reported that student motivation was lower, and none reported student mastery was lower during Institute units than during commercial units they had used.

In their narrative survey responses, some Fellows discuss explicitly how improved student engagement leads to greater motivation and better learning or achievement.

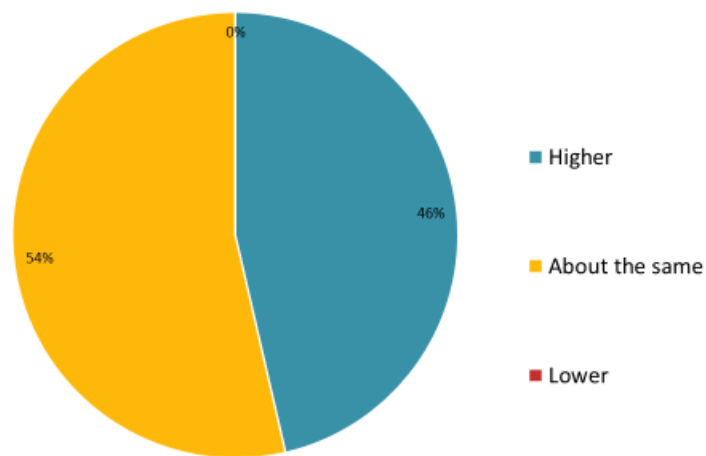
A few Fellows described improvements in student behavior resulting from higher engagement or noted how student engagement led to increased confidence among students that they could succeed in the subject area.

A few Fellows also noted that the increased engagement of their students supported their school's improvement plan.

For more information...

For more information about the Teachers Institute or the research summarized in this brief, please send inquiries to: teachers@yale.edu

Student Mastery of Material in Fellows' Units Compared with Commercial Curriculum Units Used



Source: 2016-2017 Survey of New Haven Teachers

“My previous Institute participation was helpful to me in engaging and motivating students to learn about science and how it relates directly to their lives. It’s amazing how much student learning growth can increase when students are excited to come to class and learn.” 2014 Fellow

“Participation in last year's seminar definitely improved student learning growth in my classes. As a result of implementing my unit, students were more engaged and able to analyze the information at a much higher level. They were also able to make better connections between topics and in their own lives.” 2011 Fellow

“My unit will help me present several large mathematical concepts from a different, more interactive perspective. It will also help the students see a direct application of how mathematics is used in the real world out of the standard context of a word problem. I think it will engage students and take their learning to a much deeper and richer level.” 2010 Fellow