UC DAVIS SCHOOL OF EDUCATION

Mills Teacher Scholars Program

Program Evaluation

June 2017

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REEd RESOURCING EXCELLENCE IN EDUCATION

Program Description

The Mills Teacher Scholars Program (MTS) employs a Collaborative Inquiry (CI) approach to build the capacity of teachers to engage in self-directed professional learning. The underlying program theory, is that by engaging in inquiry around student learning teachers will deepen their understanding of student learning goals and enact changes in instructional practice that best support student achievement.

Over the course of year, teacher teams implement a structured inquiry process to select an instructional focal area of interest, identify indicators of student learning success, determine and implement best instructional strategies, collect evidence of student learning and response to those strategies, then engage in reflection and inquiry to determine the effectiveness of their instructional approach. The site-based program teams include the school principal, teacher scholars, and one or more teacher scholar leaders. Some teams also include district coaches. Mills Teacher Scholars facilitators provide on-going support to teams through site-based coaching and structured group Networking activities and Monthly Inquiry Sessions.

The long-term program outcome is that teachers will sustain the collaborative inquiry approach through site-based, teacher-led learning communities that foster this practice-embedded, contextual learning and inquiry approach to student and professional learning.

Purpose of Evaluation

In 2016-17, Resourcing Excellence in Education (REEd) at UC Davis School of Education was contracted by Mills College to conduct an evaluation of the Mills Teacher Scholars Program. During this program evaluation year, the Mills Teacher Scholars Program was working with 16 school-based teams of teachers and principals throughout Northern California to model and facilitate the collaborative inquiry process around a local problem of practice directly related to student learning. Program developers were interested in conducting an evaluation to determine the extent to which the program is meeting its goals with building capacity for teacher-led communities of inquiry.

REEd proposed to evaluate the program by examining program inputs and implementation, which are crucial to identifying indicators of effectiveness of the model utilized in order to appropriately interpret expected outcomes. An implementation evaluation design examines key program components and activities to provide formative information that will guide program improvements. This type of descriptive study design also provides feedback about the services offered and helps determine whether the program is producing desired outputs and outcomes while also clarifying program processes, goals and objectives.

A secondary approach to our work with the Mills Teacher Scholar leadership team entailed development of an embedded evaluation protocol which the Mills leadership team could utilize to further explore and understand the impact of their work on the developmental trajectory of teacher shifts in practice.

Methodology

The following questions guided the evaluation of program activities in an effort to understand how the program model impacts teacher practices.

Question 1: To what extent does the Collaborative Inquiry model deepen teacher understanding of student learning to enact changes to instructional practices in ways that positively impact student learning?

Question 2: To what extent does the Collaborative Inquiry model prepare teachers with building and sustaining teacher-led learning communities?

Data Collection

The evaluation design includes mixed method data collection approaches to understand from participants the extent to which program activities have effectively supported their understanding and application of the collaborative inquiry process as a basis for understanding the potential impact of the program on professional culture. Evaluation instruments were co-created with Mills program leadership to ensure their programmatic needs were addressed.

Teacher Scholar and Teacher Leader Stakeholder Survey

Pre and post program surveys were designed to obtain participant perceptions of program activities relative to developing their understanding collaborative inquiry process and the relative transference of that learning to emergent teacher-led professional communities. Therefore, questions directly relate developing teacher knowledge, developing confidence with this new knowledge, and perceived impact on their professional practice. An additional set of questions were also included specific to Mills Scholars Teacher Leaders to gather feedback about their perceived support for and growth in their roles with supporting teachers in site-based inquiry work.

The surveys were composed of structured, closed-ended questions, utilizing Likert-style response scales. The post survey also included two open-ended items. The surveys were administered in an online format. REEd provided the Mills leadership team with a link to the online survey, which was distributed during selected program gatherings.

Principal Interviews

A strand of the Mills Teacher Scholars Program is also focused on building principal professional capacity to foster conditions that deepen adult learning through a culture of teacher-lead collaborative inquiry on campus. A purposeful sample of principals were selected by program staff to gather additional information to provide further contextual information about program impact and delivery. The REEd evaluator worked closely with

Mills staff to identify salient concepts on these extended topics of interest to develop a semi-structured interview protocol. Interviews were conducted by telephone.

Data Analysis

REEd produced descriptive statistics of participant feedback from the pre and post surveys, with basic bivariate cross tabulations by relevant demographic characteristics. Structured response survey items asked respondents to provide their perception on a variety of statements regarding the program. The scaled response options provided were "strongly agree," "agree," "disagree," "strongly disagree" and "neutral."
Survey items were categorized or grouped by the following program core constructs or theory of action: ***Deepening Teacher Knowledge of Practice, Student Learning, Developing Collaborative Inquiry Cultures, and Teacher Leadership.***

Survey items were grouped to yield a composite score as a means of data reduction and to provide a formative understanding of the impact of those program dimensions on participants. This composite is the average of the agreement values for that group of survey items and is intended to represent a summary of the program component. The composite can be used as a measure of effectiveness. The higher the survey item value or composite the more effective it is considered in imparting the desired program objective or outcome for that component.

In addition to facilitating data reduction, composites were also utilized to enable testing of significance on pre and post survey data. As surveys were not matched and additional survey items were added the post survey, significant comparisons could only be made at the group level using independent means testing. Therefore, significance tests were conducted on pre and post composite scores using an independent means ttest design to test whether or not those two means were significantly different from each other. The differences among pre and post responses by composite scores that are statistically significant ($p < .05$) are notated with an * (asterisk). A significance test provides no evidence as to the cause of the result, but rather tells us something about the degree to which the result is "true" for the predicted, perceived impact of the program's theory of action. To summarize these findings, tables in this report aggregate and present percentages of respondents who "strongly agree" and "agree" with each post survey item, as well as the pre and post composite score. As the post survey instrument changed and included additional items for data collection, it is used to achor the analysis of summary results. Detailed tables of pre and post survey results are provided in Appendix B and C.

Qualitative data collected from open-ended items on the post survey and from the principal interviews, were reduced using a simple method of analytic induction. This data reduction technique involves examining patters and relationships among the data responses to identify common themes that add depth and context to the salient evaluation questions. Identified themes are those that represent 10 or more similar responses. These themes and supporting comments will be integrated in the evaluation summary to supplement and support the quantitative findings from the survey analysis.

Program Survey Results

The Mills Teacher Scholars Program takes scholars through three phases of the inquiry process – an intensive phase, a transition phase, and sustaining phase. These phases seek to provide teachers with a grounded experience to build their skills to deepen their knowledge of student learning, to deepen their instructional practice, to develop collaborative cultures to support continued inquiry around student learning, as well as instructional improvement or change. It's through a deep understanding of student learning and routines learned around this practice during the Mills Teacher Scholar's program that teachers gain the confidence to evidence shifts in their instructional practices, and eventually sustain the work through teacher-driven collaboration around inquiry. Survey results indicate that teachers feel they have substantially improved their skills with using student data to understand student learning and with productively engaging with colleagues in discussions about instructional practices that support student success. Teachers also feel that their instructional practices have changed. Survey results for each program component is presented below.

Collaborative Inquiry Cultures

One of the key program objectives is to build teacher capacity for productive teacher collaboration to engage as adult learners around improving instruction. Critical to an adult learning environment is collectively valuing trust and safety to foster conditions for honest sharing, surfacing uncertainties, and constructive deliberation and feedback. ***Post survey and pre to post composite results indicate that teachers have had success with developing and strengthening supportive professional relationships with colleagues to engage in meaningful practice-centered conversations, as a result of their inquiry work with the Mills Teacher Scholars Program***. For example, the majority of teachers (93%) reported having more conversations with colleagues about their uncertainties, with 87 percent of teachers feeling more confident receiving questions and feedback from colleagues that challenge their current thinking (Table 1).

Table 1. Post Survey Collaborative Cultures Percent Agreement and Composite Pre/Post Comparison

Collaborative Cultures	N	% Strongly Agree/ Agree
I have more conversations, that I may not otherwise have had, with colleagues about my uncertainties, questions, and insights.	248	93%
I am more confident in surfacing uncertainties about my practice with colleagues.	247	83%
I feel more comfortable receiving questions and feedback from colleagues that challenge my current thinking/ideas.	248	87%
I feel more comfortable supportively challenging my colleagues thinking in our small group discussions.	248	86%
I feel teacher collaboration is more valued and supported at my school site.	187	76%
There is greater sense of safety with sharing student data that reflect challenges to our work.	186	72%
	Pre	**Post**
Composite	76%	84%*****

**Significant at the p>.05 level.*

To a lesser extent teachers were somewhat less confident that collaboration was valued at their site (76%) and with having a greater sense of safety with sharing student work that reflects their challenges (72%), and only four site-based teams showed lower post composite scores. These two items also had the highest percentage of neutral responses (12% and 20%, respectively). These responses could indicate that teachers could be relatively new to their site and/or team, that these conditions existed prior to participation in the Mills program, or that not all teachers at their respective school sites have "bought-in" to the process. An important consideration is that trust and relationships grow over time, and participant demographics indicate that most teachers (77%) are only in their first or second year of the program.

When asked what would make the Mills inquiry work more valuable, a theme that surfaced among participant responses was a desire for all colleagues to genuinely participate in the process. Participants indicated that they experienced a level of trust among their Mills peers during program activities. However, they indicated less trust, less buy-in, and less perceived participation in the process at their school site, school-wide. Many teachers expressed a desire for the inquiry work to be integrated with and prioritized within their local professional development plans. A few illustrative participant comments include:

> *"For teachers at my site to participate whole heartedly."*
>
> *"If we could engage ALL teachers at our school in the inquiry process. We have strong administrative support. But several teachers are still resistant."*
>
> *"I feel it would have been more valuable if the school had focused its professional development on this program instead of spreading our development into various other areas."*

Overall, composite score reflections of collaborative professional exchanges increased by 8 percent. Pre and post comparisons for this component further support that teachers' improved perceptions of their abilities to professionally engage each other were significant. This suggests that teachers are succeeding with and feeling confident in their capacity to collaboratively engage as adult learners in the inquiry process.

Deepening Knowledge of Student Learning and Instructional Practice

Foundational to effective collaboration for improved instruction is the ability to use data and evidence to understand student learning. Therefore, central to the inquiry process is building teachers capacity to use student data to understand student thinking to support and drive their instructional practices. ***Post survey responses also indicate that a majority of teachers are more confident in their ability to collect meaningful student-level data (83%) and use that data (84%) to inform their instructional decisions, as result of the Mills inquiry process***. Currently, 73% of teachers report that student work is more frequently used to guide their instructional decisions, with 74% reporting there is more support around implementing and refining their instructional practices (Table 2).

Table 2. Post Survey Instructional Shifts Percent Agreement and Composite Pre/Post Comparison

Instructional Shifts	N	% Strongly Agree/ Agree
I have shifted my instruction based on what I am learning about my students through inquiry.	248	92%
I am more confident in my ability to collect student-level data that is meaningful and informs my instructional decisions.	248	83%
I am more confident using student-level data to make instructional decisions.	247	84%
Student work is more frequently used to help guide our instructional decisions.	186	73%
There is a continuous focus to deepen our understanding of the content that we teach.	187	81%
There is more support around implementing and refining various instructional practices.	186	74%
	Pre	**Post**
Composite	77%	82%*

**Significant at the p>.05 level.*

Clearly, teachers are becoming more confident in their inquiry practice, as 92% reported they have a deeper understanding of what indicates success for their students (Table 3) and that they have shifted their instruction based on what they are learning about their students through inquiry (Table 2). Illustrative examples of this include:

> *"Questioning my practice and trying to make changes that advance student learning."*
>
> *"Discussions with colleagues about student learning, their understandings, and observations. Putting a lens on specific aspects of learning."*
>
> *"The inquiry work was valuable because it made me become more aware at what I was doing. For example, the indicators made me know what I needed to teach and do for my students to get where I wanted them to go."*

Another key theory of action underlying Mills Teacher Scholars inquiry process is that it is through routine use of student data and an enhanced understanding of what constitutes evidence of success that teachers are able to gain confidence and clarity on students' thinking and learning processes. In this respect, teachers reported being more confident in their ability to recognize student strengths in the data (87%) and progress towards a learning goal (85%), as a result of the Mills inquiry process (Table 3).

Table 3. Post Survey Knowledge of Student Learning Percent Agreement and Composite Pre/Post Comparison

Student Learning	N	% Strongly Agree/ Agree
I have more conversations with students, that I may not otherwise have had, about the way they are thinking and learning.	248	83%
I have a deeper understanding of what indicates success for my students in the area of my inquiry.	248	92%
I am more confident in my ability to use student-level data to recognize student progress towards a learning goal.	247	85%
I am more confident in my ability to recognize student strengths in the data.	186	87%
There is a greater emphasis on understanding student thinking.	187	79%
	Pre	**Post**
Composite	68%	85%*

**Significant at the p>.05 level.*

The largest increase in perceived growth was seen in teachers' deepening their knowledge of student learning, as supported by a composite result increase of 17 percent. Comparison of pre and post student learning composite results also indicate perceived impact among participants was significant. As a result, teachers expressed more confidence with making shifts in their instruction, evidenced by a five percent composite increase in their perceptions of initiating instructional shifts.

When asked to provide examples of what was most valuable about the inquiry work, a common theme which surfaced among teachers was valuing the structured time and protocols to engage in discussions with peers around student data. Illustrative examples include:

> *"Working together with colleagues, sharing ideas, and developing strategies for data collection and assessment."*

> *"Forcing me to collect student data and discuss it with colleagues is always helpful. In the day to day rush of completing work tasks before going home, critically analyzing student work is the last think that I do."*

> *"Having the space and time to look at student data is always helpful. Awareness of student strengths and weaknesses allow us to better modify lessons."*

> *"A specific example would be the meetings I had with the other teachers where we discussed the value of having more student discussions."*

Teacher Leadership

An additional strand of the Mills Teacher Scholars program is to develop the coaching and leadership skills of emerging teacher leaders to support school-based teacher-led professional inquiry communitites. Based on post-survey composite results, a majority of teacher leaders (82%) appear to be developing competent inquiry skills through the program. For example, 95 percent teacher leaders reported being more confident in their ability to provide authentic thinking spaces for their colleagues, with 89 percent reporting they have increased their capacity to support and coach their colleague's inquiry work (Table 4).

Table 4. Post Survey Teacher Leader Growth Percent Agreement and Post Composite Score

Teacher Leader Growth*	N=36	% Strongly Agree/ Agree
As a result of my participation in this program my confidence to have conversations with my administrator on designing teacher learning for the site has increased.		61%
As a result of my participation in this program I have increased my capacity to support and coach my colleagues inquiry work.		89%
As a result of my participation in this program I am more confident with using classroom data to support my colleagues instructional practice.		86%
As a result of my participation in this program I am more confident in my ability to provide authentic thinking spaces for my colleagues.		95%
		Post
Composite		83%

**Post survey questions only*

Post survey results from teacher leaders also suggest that principals are supportive and encouraging of their leadership role, but less hands-on and engaged directly with the inquiry work (Table 5). For example, the majority of teacher leaders (72%) felt their principal values growing a professional learning community and expresses excitement and encouragement about their leadership of inquiry work (67%). Pre-survey results indicate that 72 percent of teacher leaders were satisfied with their principals' engagement in the construction of a vision for the collaborative inquiry work compared to 61 percent on the post survey.

Composite results also suggest a perception of higher initial principal engagement (76% vs 66%). As the majority of participants or districts are in their first or second year of the program, this may suggest that principals were more engaged in the initial visioning of the work, and may have gradually backed-off in an effort to release greater responsibility to teacher leaders.

Table 5. Post Survey Teacher Leader Percent Agreement and Composite Pre/ Post Comparison

Teacher Leader	N=36	% Strongly Agree/ Agree
I am satisfied with my principals engagement in the construction of a vision for the collaborative inquiry.	72%	61%
My administrator has personally expressed excitement and encouragement to me about my leadership of inquiry work.	69%	67%
My administrator values growing a professional learning community.	88%	72%
My administrator meaningfully engages in and values my learning about leading my colleagues.		64%
	Pre	**Post**
Composite	76%	66%

Teacher leaders also appear to be experienced teachers. Teacher leaders represent approximately 16% of program participants, of which 12% have been in the program between 1 and 2 years. The majority of these teacher leaders (54%) have 11 or more years of teaching experience. However, it is unclear whether teachers leaders' perceived confidence with leading inquiry among their peers and their level of teaching experience account for lower perceived engagement of site principals.

Teacher Reflections

Teachers were provided two opportunities to share what most helpful or valuable about the Mills Teacher Scholars inquiry work and what would make the inquiry work more valuable. These opportunities were provided in an open-ended question format. The summary respresents comments provided from 246 participants. Responses that were common among 10 or more participants were identified themes. Representative examples or explication of those themes emerged from three or more similar responses (Appendix A).

Teachers highly valued the time and space to collaborate with other educators and reflect on the inquiry process. The three themes that emerged reflecting what was most valuable about program were the *opportunities to engage in learning with teachers in grade levels other than their own*, *dedicated time to reflect on their learning through the process*, and the *structure of their learning in the program*. Some illustrative examples of teacher responses include:

> *"I enjoyed sharing my concerns about the method I was using to teach a specific content and hearing my colleagues' feedback and arriving at some type of synthesis of ideas."*
>
> *"Having designated time to reflect on my practice, student learning, and indictors of successes with colleagues has been extremely helpful to my ability of being an effective teacher to all students."*
>
> *"The small group discussions helped clarify my approach to data collection."*

Participants also valued the protocols and structures used to guide the inquiry process during their monthly meetings. Many respondents also highlighted the importance of their Mills facilitator with helping them maintain focus on the inquiry process by providing on-site and 1x1 support. Some illustrative examples of teacher responses include:

> *"Being held accountable to collecting data and revising our goals. Continuing to show video clips in our meetings of students."*
>
> *"Modeling the process, collaboration time and providing us with the template to write our own inquiries."*
>
> *"The process of stating clearly defined goals and then determining various indicators of success has given me a format to follow with the specific language necessary to communication the teaching and learning."*

Common themes that emerged in response to what would make the inquiry work more valuable were related to the *introduction of the inquiry process*, the *structure of the program*, and *site-based issues external to the program*. While the majority of the participants generally had positive comments about their experience in the

program, a common response for increasing participant value of the program was to make the inquiry process more explicit at the beginning. For instance, respondents indicated they would have liked more information or examples about previous inquiry projects to better inform selection of their focus and thus the trajectory of their work. And while many teachers reported feeling supported by Mills Teacher Scholars staff throughout the inquiry process, they would have liked knowing there was flexibilty with their selection to change focus if needed. There were also convergent but opposing views on some aspects of the program structure with regard to frequency of meetings and configuration of groups. For instance, participants either felt that meetings were too frequent, not frequent enough, or timely as currently scheduled. Among those who commented that meetings were beneficial, indicated they appreciated the continued focus and reflection they offered, while those who felt meetings were too frequent were open to other opportunities to continue sharing. Some illustrative examples include:

"Having more frequent meetings so that the inquiry work is present in my mind."

"I find that if I could work with my grade level team, we can find some common ground. So, it would be nice if there was a mix."

"More clarification of the overall process before choosing a goal. I didn't have a good grasp on what was expected for the inquiry until a few weeks into the process."

"More time to plan implementation of the intervention of inquiry at the meetings. Spend too much outside time on this and it is hard."

"I liked the small group time better than the whole group time. It would be good to be with different people in the small groups so we can find out what more people are doing (in depth)."

Summary of Principal Interviews

Feedback from principals sought to illicit ways in which the program was supporting them as a leader, with supporting and providing the conditions for teacher-led learning, and evidence that the inquiry process was taking hold with teachers. Five princpals were interviewed for this evaluation.

The common theme that surfaced among principals was that they most valued the on-going support of their dedicated Mills Teacher Scholars facilitator throughout this process. Facilitators have been instrumental with helping principals think through their goals and facilitating site-based inquiry work through coaching and co-leading. Principals also expressed a desire for continued 1x1 coaching and check-ins with a Mills Teacher Scholars facilitator for individualized support with implementing the inquiry process in a way that allows teachers to be leaders in that process.

Principals also highlighted the utility of the inquiry protocols to provide structure for further continuing the work on site. Among the challenges noted with further accelerating inquiry work was the funding and contractual challenges with implementing a school-wide approach to scaling up this work.

The biggest shifts in practice noticed by principals were with **teachers having more focused conversations around student work, being more reflective, and building better communication and trust in their relationships with one another.** Principals describe there is **more willingness to look at student data and a greater sense of openness and sharing of practices**.

Summary of Findings

To what extent does the Collaborative Inquiry model deepen teacher understanding of student learning to enact changes to instructional practices in ways that positively impact student learning?

Central to the Mills Teacher Scholars collaborative inquiry process is building teachers' capacity to use student data to understand student thinking and learning goals to better support and drive their instructional practices. As a result of participating in the inquiry process around student learning, teacher scholars expressed more confidence with using data on student learning to inform changes to their instruction. Composite results on instructional shifts (Table 2) and student learning (Table 3) clearly indicate scholars are enacting changes to their instruction based on what they are learning about their students through inquiry. Overall, teacher perception and principal interview data suggest that the program has most impacted teacher knowledge of student learning. **The largest increase in perceived growth was seen in deepening teacher understanding of student learning**, as evidenced by a 17 percent increase composite pre and post survey results. In addition, principals shared that conversations among teachers around student data has become more central to their collaborative work. As a result, teachers expressed more confidence with making shifts in their instruction, as evidenced by a five percent composite increase in their perceptions of initiating instructional shifts. Teachers reported deriving much value from the Program's structured time and protocols around identifying indicators of student success, collecting data on student learning, and engaging with peers in discussion student data and implications for instruction.

To what extent does the Collaborative Inquiry model prepare teachers with building and sustaining teacher-led learning communities?

A long-term outcome of the program is sustaining the collaborative inquiry approach, around understanding student learning and implications for instructional practice, through teacher-led learning communities. Therefore, another key program objective is to build teacher capacity for productive collaboration to engage as adult learners around improving instruction. Data collected for this evaluation clearly indicate that teachers are learning and practicing valuable communication and collaboration skills to engage each other in productive, professional conversations that support student success (Table 1). The second largest increase in perceived growth was seen in deepening their practice around collaborative inquiry, as evident by an 8 percent increase composite pre and post survey results. This suggests that teachers are developing and strengthening their capacity to engage in meaningful practice-centered conversations with colleagues.

2016-17 Mills Teacher Scholars Program (MTS) Program Evaluation

An essential strand of the Mills Teacher Scholars program is to develop the coaching and leadership skills of emerging teacher leaders to support their school-based teacher-led professional inquiry communities. Although teacher scholar perceptions on the role their teacher leader plays in the community building process was not collected, post-survey composite results indicate a majority of teacher leaders reported becoming more competent in their inquiry skills through the program (Table 4). Teacher leaders also reported feeling better prepared and more confident with their ability to provide authentic thinking spaces for their colleagues and with their capacity to support and coach their colleague's inquiry work.

As some teachers expressed the desire for more team and or individual planning time during the Mills Teacher Scholars sessions to prepare and plan for this work, and for greater teacher or school-wide participation in the inquiry process, results would suggest they are not yet in a sustaining phase at their school site. However, collectively the data around collaborative cultures and teacher leader growth would suggest that teachers have built strong foundational skills for collaborative inquiry, with teacher leaders actively supporting their colleagues as a community of learners.