

The Modern Classrooms Project: Evaluation Results for the 2020-21 School Year

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EXECUTIVE SUMMARY:

The Modern Classrooms Project: Evaluation Results for the 2020-21 School Year

The Modern Classrooms Project (MCP) provides professional development and coaching to teachers to help them meet their students' academic needs by integrating self-paced and mastery-based principles and technology into instruction. This approach works to develop students' abilities to engage in self-directed learning. Specifically, the program is grounded in three core practices:

- *Blended instruction:* Teachers replace lectures with videos, and spend class time working directly with students.
- *Self-paced structure:* Teachers differentiate instruction based on student needs so that students are always challenged and engaged.
- *Mastery-based learning:* Teachers assess students on understanding, not completion, and no student advances until ready.

In this study, MCP teachers are defined as teachers who have completed either The Modern Classrooms Fellowship program during the 2018 or 2019 summer, or The Modern Classrooms Virtual Mentorship Program during 2020, prior to the study. Fellowship training consisted of a week-long training session during which teachers completed a Unit Planning Template for the first unit of their course(s) and attempted to master 10 learning objectives relating to blended instruction, self-paced learning, and mastery-based assessment. Their mastery of those learning objectives was assessed as part of the training. The Virtual Mentorship Program consisted of teachers enrolling in a three-month, self-paced, virtual version of the Modern Classrooms training. Developed in early 2020, this training includes progressing through six online course learning modules, pairing with an expert Modern Classrooms mentor for support and coaching, and submitting five assignments to demonstrate mastery of the learning objectives. Submitted assignments were reviewed by expert mentors, and teachers were provided feedback on their work.

As with the Year 1 (2018-19) and Year 2 (2019-20) studies, this study used teacher survey data collected at the midpoint of the 2020-21 school year to determine whether MCP teachers and students reported more favorable outcomes than did comparison teachers and students. Additionally, for MCP teachers and students only, the study examined changes over time in teacher and student survey responses from the start to the midpoint of the school year. Teachers were interviewed regarding their experiences related to MCP in order to supplement interview findings. Due to the COVID-19 pandemic, the timing of survey data collection was different for some MCP and comparison students. More information about the surveys and methods is provided in the following section.

Key Findings

As with previous studies of MCP, our Year 3 evaluation showed positive evidence for the program, as evidenced by both teacher and student survey and interview responses. According to survey data, MCP showed benefits for teachers at all school levels and across different academic subjects. These patterns are similar to those observed in the first year of evaluation, which suggests stability in MCP effects, especially as the Year 3 evaluation was conducted during the COVID-19 pandemic.

MCP teachers' ability to differentiate instruction was one of the most important effects of the MCP. Quantitative survey results showed that MCP teachers rated their ability to differentiate instruction more highly than did comparison teachers. Qualitative analysis of open-ended teacher survey items showed that MCP teachers perceived having stronger relationships with their students after participating in the program.

Students of MCP teachers reported higher perceptions of engagement with their learning than did comparison students. Positive MCP impacts were also observed on students' perception of self-efficacy in the classroom, as well as their perceived relationships with their teachers. In open-ended questions, MCP students indicated they most enjoyed classwork and the way their teachers taught their class.

Conclusions

An important overall finding in the present study was that teacher-student relationships appeared to improve for MCP teachers, as evidenced by both teacher and student survey data. MCP teachers perceived themselves as more effective at behaviors related to differentiating instruction than did comparison teachers, and students of MCP teachers reported higher levels of perceived engagement in class than did students of comparison teachers. These patterns of results show evidence of the MCP positively impacting teacher instructional behaviors in the classroom, which are in turn leading to more positive student perceptions of learning. Importantly, these patterns of results mirror those found in the Year 1 and Year 2 evaluations, suggesting that the impacts of the MCP on teacher behaviors is consistent across various modes and forms of training, as training for the present year differed from that previous years, due in large part to the COVID-19 pandemic. Teachers did indicate that the planning of units and lessons was a significant investment of time and effort, but most teachers considered the benefits to be worth the effort. Teachers did request additional support in MCP training and evaluation, as well as more professional development opportunities, including connection with other MCP teachers, examples, and models.

In conclusion, overall patterns of results showed generally very positive program perceptions by both teachers and students. In relation to comparison teachers and students, MCP teachers and students generally showed more positive perceptions of

learning, especially in relation to student engagement and teacher-student relationships. Although the comparison and MCP teacher and student samples appeared generally similar in characteristics in this study, given the pure voluntary conditions for the comparison samples, some small biases in results (likely affecting the latter's perceptions more positively than negatively) could have occurred. Future research in which sampling is systematically conducted to ensure group equivalence is encouraged. Examining MCP effects on student achievement in a future treatment-comparison group study might also be considered.

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Method

Design

The present study employed a within-school correlational design to examine differences between treatment (MCP) and comparison teachers and their respective students. Qualitative data were collected to supplement quantitative findings.

Participants

Participants included teachers and students from three districts and two charter schools in the Mid-Atlantic region of the U.S. The districts include the District of Columbia Public Schools (5 schools), Bellwood-Antis School District in PA (3 schools), and Frontier Central School District in NY (5 schools). The two charter schools are DC International School and Thurgood Marshall Academy. All teachers who had completed MCP training between 2018 and 2020 were invited to participate in the study. Comparison teachers from the same schools as MCP teachers were invited to participate by email from either a school administrator or MCP-trained teacher within the school. Table 1 outlines the overall teacher sample sizes and characteristics.

Table 1
Teacher characteristics

	Modern Classrooms Teachers	Comparison Teachers
Female	77%	74%
White	73%	59%
Black	28%	30%
Other race	4%	15%
Mean age	38.7	39.8
Mean years of teaching experience	13.4	14.1
Traditional certification	78%	63%
Alternative certification	16%	30%
Other certification	6%	7%
<i>Taught...</i>		
Elementary school	24%	12%
Middle school	25%	48%
High school	51%	44%
Science	19%	30%
Mathematics	16%	4%
English	19%	19%
Social studies	9%	22%
Other subject	37%	25%
Teacher N	74	27

Note: Demographics for MCP teachers were calculated for all teachers with at least one completed teacher survey.

MCP teachers and comparison teachers were generally similar in terms of demographic characteristics. Teachers were mostly White and female, although a slightly smaller percentage of comparison teachers were White. MCP teachers and comparison teachers were also similar in age and average years of teaching experience, with teachers averaging 13-14 years of teaching experience. A higher percentage of MCP teachers (78%) held traditional teaching certificates than did comparison teachers (63%), but this difference was not statistically significant.

The MCP teacher sample contained more high school teachers than middle school teachers, while comparison teachers were relatively evenly split between middle and high schools. This was likely due to the convenience sampling employed in this evaluation. Small percentages of both MCP teachers and comparison teachers were elementary school teachers. Both MCP teachers and comparison teachers taught a broad range of subjects. Science and English (19% each) were the most commonly reported subjects taught by MCP teachers, while Science (30%) and Social Studies (22%) were the most commonly reported subjects taught by comparison teachers.

Student survey data contained data related to students' grades and courses in which they were administered the survey. Because students could potentially have multiple classes with MCP teachers or comparison teachers, some students completed the survey multiple times for different teachers or courses.¹ One important change in timing occurred for students in the District of Columbia Public School District (DCPS). Due to the COVID-19 pandemic, the district moved to semester-long courses and as a result, students in MCP classrooms were surveyed at the start and end of the second semester, as opposed to the beginning of the school year and midpoint for all other participating schools. Similarly, comparison students in DCPS were also administered the student survey at the end of the second semester. These data for non-DCPS and DCPS students are summarized in Tables 2 and 3, respectively.

Table 2

Student characteristics, non-DCPS students

	MCP	Comparison
Middle school	63%	94%
High school	37%	6%
<i>Course in which survey taken...</i>		
Science	22%	83%
Mathematics	23%	0%
English	30%	10%
Social studies	11%	1%
Other subject	14%	6%

¹ 56% of students in DCPS schools and 71% of students in non-DCPS schools completed the survey once for a single course; 35% of students in DCPS and 25% of students in non-DCPS schools completed the survey twice for two courses, and 9% of students in DCPS and 4% of students in non-DCPS schools completed the survey more than twice for multiple courses.

Student N	2,286	213
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Just under two-thirds of MCP students were in middle school grades, while nearly all (94%) of comparison students were in middle school grades. This may be due in part to the convenience sampling used in this evaluation, as comparison teachers chose to opt in, and were not necessarily selected to be equivalent to MCP teachers in terms of school level or courses taught. Furthermore, students in all classrooms were given the option to opt-in to survey participation, which may have affected sample equivalence. Students in MCP classes were generally evenly distributed among English, mathematics, and science classes, while a vast majority of comparison students (83%) were in science classes.

Table 3

Student characteristics, DCPS students

	Modern Classrooms	Comparison
Middle school	15%	0%
High school	85%	100%
<i>Course in which survey taken...</i>		
Science	41%	0%
Mathematics	16%	0%
English	13%	52%
Social studies	9%	24%
Other subject	21%	24%
Student N	441	96

A large majority of MCP students (85%) and all comparison students in DCPS schools who were administered the survey were high school students. The largest proportion of MCP students came from science courses (41%), followed by other subjects, mathematics, and English. By contrast, just over half of comparison students came from English courses, followed by social studies and other subjects.

Instruments

Teacher and student surveys were developed by the MCP and piloted in an earlier study.² The teacher survey included items relating to:

- Effective classroom practices
- Differentiation of instruction
- Student skills development

² Wolf, R. (2019). *Survey findings for the 2018–19 implementation of The Modern Classrooms Project*. Towson, MD: Center for Research and Reform in Education (CRRE), Johns Hopkins University. <http://jhir.library.jhu.edu/handle/1774.2/62370>

- Beliefs about teaching

The student survey included items relating to:

- Engagement in the course
- Skills development
- Self-efficacy
- Beliefs about teacher efficacy

The surveys also included some open-ended items gauging participant experiences in their courses. Background and demographic information was also captured in the teacher surveys. The teacher survey may be found in Appendix A, and the student survey may be found in Appendix B.

In addition, a teacher interview protocol (see Appendix C) was developed by the Johns Hopkins Center for Research and Reform in Education (CRRE). It was designed to parallel the teacher questionnaire items but provided more in-depth exploration of teachers' program experiences, activities, and reactions.

Procedure

Surveys were administered by MCP throughout the 2020-21 school year to teachers and students in the three public middle schools, six public high schools, four elementary schools, and two public charter middle and high schools across three local educational agencies in the Mid-Atlantic region (see Table 4). Interviews with MCP teachers were conducted by CRRE in the spring of 2021.

Table 4

Timing of data collection activities by participant group

	MCP (non-DCPS)	Comparison (non-DCPS)	MCP (DCPS)	Comparison (DCPS)
Teacher survey	Pre MCP training (March/April 2020) Midpoint (Feb 2021)	Midpoint (Feb 2021)	Pre MCP training (March/April 2020) Midpoint (Feb 2021)	Midpoint (Feb 2021)
Student survey	Start of school year (Sep 2020) Midpoint (Feb 2021)	Midpoint (Feb 2021)	Start of spring semester (Feb 2021) End of spring semester (May 2021)	Start of spring semester (Feb 2021) End of spring semester (May 2021)
Teacher interview	End of school year		End of school year	

Across all schools, MCP teachers were surveyed prior to MCP training (March/April 2020) and the midpoint of the 2020-21 school year. Teachers in non-DCPS schools also administered the student survey to their classrooms participating in the MCP model at both the start and midpoint of the school year. At the start of the school year, students were prompted to reflect on their “previous school experiences” rather than their actual beginning of year experiences. Comparison teachers were also recruited by the MCP from within the same schools and were surveyed at the midpoint of the school year. Comparison teachers also administered the student survey at the midpoint of the school year.

An important difference in survey administration occurred in DCPS schools. In these schools, both MCP and comparison students were administered the student survey at the start and end of the spring semester. These variations in student survey timing were due to the preferences of MCP, and were not part of the original evaluation plan.

Analytical Approach

This study included two primary types of analyses. The comparison analyses examined differences in midpoint survey responses for MCP teachers and their students relative to comparison teachers and their students. The MCP teacher sample for these analyses included both new (2020-21) teachers and experienced MCP teachers. These

analyses also examined differences in end-of-semester (spring 2021) survey responses for DCPS students in MCP classrooms in relation to DCPS students in comparison classrooms. Thus, these analyses revealed differences in beliefs for teachers and students who participated in the MCP program relative to those who did not. Independent t-tests were used to test differences on survey item responses between MCP and comparison teachers. While MCP teachers and students and comparison teachers and students were generally similar on background characteristics, these analyses cannot eliminate the possibility that teachers or their students differed from comparison teachers or their students in other ways.

The second type of analyses examined changes in survey responses over time. For teachers, this was from the pre-MCP training to the midpoint of the school year. For non-DCPS students, this was from the start of the school year to the midpoint and from midpoint to the end of the year for DCPS students. These analyses showed to what extent teachers and their students improved their survey scores over time, after participating in the MCP model. Dependent *t*-tests were used to compare survey item responses at different time points. It should be noted that in this second type of analysis, only teachers who were trained in 2020, through the Virtual Mentorship Program, and who were therefore in their first year of implementation were included. For these teachers, start data was collected prior to training.

All surveys contained a 5-point Likert-type scale. Survey responses were analyzed by examining average ratings between groups or survey administrations. This approach allowed us to examine differences between MCP teachers and comparison teachers on individual survey items, as well as to examine potential changes over time for MCP teachers.

Results

The MCP is a teacher professional development program, so effects of the program are best understood by examining teachers' perceptions of how they changed their teaching practices. We begin our results section by examining changes in teacher practices. Students may also have perceived changes in classroom inputs or outcomes, given that the MCP aims to alter traditional classroom structures. The next section details findings regarding changes in teacher practices and beliefs. The subsequent section discusses student perceptions of learning and the support they received in classrooms.

Within the following sections, we first present differences between MCP teachers and comparison teachers on the mid-year survey. Then, we present differences between MCP teachers' perceptions on beginning-of-year survey and the mid-year survey.

Teacher Questionnaire Results

In this section, we examine teacher perceptions of their instruction and classroom practices, along with student skill development and beliefs about teaching. MCP teachers' survey responses are compared with non-MCP (comparison) teachers' responses at the middle of the year. MCP teachers' survey responses are also compared from the beginning of the year to the middle of the year. Questionnaire frequencies and descriptive statistics are presented in Appendix E.

Differentiation. A total of five survey items solicited teachers' perceptions of their ability to differentiate instruction. Table 5 shows MCP teachers' and comparison teachers' average responses regarding their ability to effectively differentiate instruction for their students.

Table 5

Ability to differentiate instruction, MCP teachers and comparison teachers

Item	MCP (<i>n</i> = 68)	Comparison (<i>n</i> = 27)
I understand what each of my students has and has not mastered	4.37*	4.00
I feel I am able to effectively serve students at all levels of understanding	4.30***	3.59
I am able to work closely with each of my students during class	3.93***	2.89
I use data to provide effective targeted supports to students	4.24*	3.96
I can easily help students who have missed class to catch up	4.39	3.52

Note: * $p < .05$; *** $p < .001$

One key finding is that MCP teachers felt significantly more capable of differentiating instruction than did comparison teachers. At the midpoint of the school year, these teachers rated themselves as significantly more able to effectively serve students at all levels of understanding, work closely with each of their students during class, and help students who missed class to catch up ($p < .001$ for each of these items). MCP teachers also rated themselves as more likely to understand what each of their students has and has not mastered, as well as use data to provide effective targeted support to students, than did comparison teachers ($p < .05$ for both items).

Another question of interest is whether MCP teachers were initially more effective at differentiating instruction, or if they improved these abilities throughout the school year as a result of implementing the MCP. Table 6 compares MCP teachers' average responses to these five survey items from the beginning to the middle of the year.

Table 6

*Ability to differentiate instruction for MCP teachers over time (*n* = 50)*

Item	Beginning of year	Mid-year
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I understand what each of my students has and has not mastered	3.70	4.34***
I feel I am able to effectively serve students at all levels of understanding	3.50	4.28***
I am able to work closely with each of my students during class	2.88	3.90***
I use data to provide effective targeted supports to students	3.62	4.14***
I can easily help students who have missed class to catch up	3.22	4.38***

Note: *** $p < .001$

MCP teachers made significant gains over time in their reported ability to differentiate instruction. Teachers reported significant gains in their ability to differentiate instruction across all five relevant survey items ($p < .001$ for all items). These findings indicate that MCP implementation resulted in improved teachers' perceptions in their abilities to effectively differentiate instruction.

Effective classroom practices. The next set of teacher survey items pertained to classroom practices. Table 7 shows average responses on these items for MCP and comparison teachers.

Table 7
Mid-year survey responses, MCP and comparison teachers

Item	MCP ($n = 68$)	Comparison ($n = 27$)
I use my technology effectively	4.57	4.41
I use my time effectively	4.54	4.33
I can effectively manage student behavior	4.58	4.37
I plan effective learning experiences for my students	4.57	4.44
I provide students with adequate time to revise their work	4.51**	4.01
I find class time to be stressful	2.28	2.19

Note: ** $p < .01$

MCP teachers reported being significantly more able to provide students with adequate time to revise their work than did comparison teachers ($p < .01$). No significant differences were found on any of the other five Effective Classroom practices items, with MCP teachers rating themselves only slightly higher on all five of these items than did comparison teachers.

Table 8 compares MCP teachers' average responses to these survey items at the beginning and middle of the year.

Table 8
Mid-year survey responses for MCP teachers over time ($n = 50$)

Item	Beginning of year	Mid-year
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I use my technology effectively	4.00	4.56***
I use my time effectively	4.04	4.50***
I can effectively manage student behavior	4.32	4.60***
I plan effective learning experiences for my students	4.18	4.60***
I provide students with adequate time to revise their work	3.82	4.46***
I find class time to be stressful	2.32	2.30

Note: *** $p < .001$

MCP teachers generally reported using significantly more effective teaching practices at mid-year than at the beginning of the year. MCP teachers rated themselves higher at using technology and time more effectively, managing student behavior more effectively, planning effective learning experiences for their students, and providing students with adequate time to revise their work at mid-year than at the beginning of the year. Teacher-reported stress was nearly identical at both time points.

Student skills development. Another goal of the MCP is to develop students' academic skills. Table 9 compares MCP teachers' and comparison teachers' reported student skills development and classroom relationships at the midpoint of the school year.

Table 9
Student skills development, MCP and comparison teachers

Item	MCP ($n = 68$)	Comparison ($n = 27$)
I teach my students academic skills in addition to content	4.48	4.26
I help my students reflect on their strengths and weaknesses as learners	4.27	4.07
I have good personal relationships with my students	4.60	4.33
I help my students develop better relationships with their classmates	4.15	3.78

There were no significant differences reported between MCP and comparison teachers on these four items at the midpoint of the school year. MCP teachers reported slightly higher average ratings on student skill development items, but both groups of teachers generally responded very positively to these items. This finding indicates that all teachers agreed they had good relationships with their students.

Table 10 compares average responses by MCP teachers to these items at the beginning and middle of the year.

Table 10
Student skills development for MCP teachers over time ($n = 50$)

Item	BOY	Mid-year
I teach my students academic skills in addition to content	4.10	4.46*

I help my students reflect on their strengths and weaknesses as learners	3.46	4.26***
I have good personal relationships with my students	4.54	4.66
I help my students develop better relationships with their classmates	4.08	4.26

Note: * $p < .05$; *** $p < .01$

As the school year progressed, MCP teachers reported significant improvement in teaching their students academic skills in addition to content ($p < .05$) and helping their students reflect on their strengths and weaknesses as learners ($p < .001$). The latter finding is consistent with both the MCP model, which promotes student reflection and self-directed learning, and findings from the Year 2 Modern Classrooms evaluation.

Beliefs about teaching. We also examined differences between MCP and comparison teachers regarding their beliefs about teaching. Table 11 displays average survey item responses for the six items that assessed MCP teachers' and comparison teachers' beliefs about teaching.

Table 11
Beliefs about teaching, MCP and comparison teachers

Item	MCP ($n = 68$)	Comparison ($n = 27$)
I know I am preparing my students for the next grade level	4.52	4.30
I know I am preparing my students for the real world	4.61	4.26
I feel that I am growing and improving as a professional	4.66*	4.22
I enjoy teaching	4.61	4.59
I intend to continue teaching for many more years	4.48	4.37
I know I am doing the best I can	4.63	4.41

Note: * $p < .05$

MCP teachers reported significantly higher perceptions of feeling as though they are growing and improving as a professional than did comparison teachers. No other significant differences between MCP and comparison teachers were found, although MCP teachers generally reported slightly higher ratings on all other survey items related to teaching beliefs.

MCP teachers generally rated their beliefs about teaching significantly higher at the mid-year than they did at the beginning of the year. Table 12 shows the average MCP teacher ratings for teaching belief items across these time points.

Table 12
Beliefs about teaching for MCP teachers over time ($n = 50$)

Item	Beginning of year	Mid-year
I know I am preparing my students for the next grade level	4.30	4.54**

I know I am preparing my students for the real world	4.28	4.66**
I feel that I am growing and improving as a professional	4.34	4.74***
I enjoy teaching	4.64	4.58
I intend to continue teaching for many more years	4.50	4.48
I know I am doing the best I can	4.28	4.68***

Note: ** $p < .01$; *** $p < .01$

At mid-year, MCP teachers reported significantly higher levels of knowing they are preparing students for the next grade level and the real world ($p < .01$ for both items), as well as feeling that they are growing and improving as professionals and knowing that they are doing the best they can ($p < .001$) as compared with the start of the school year. MCP teachers reported similarly high perceptions of teaching enjoyment and intending to continue teaching for many more years at both time points.

In addition, teachers were asked four questions at mid-year relating to their confidence supporting the needs of students with unique barriers to learning. These responses are summarized in Table 13.

Table 13

Confidence in supporting students, MCP and comparison teachers, mid-year

Item	MCP ($n = 68$)	Comparison ($n = 27$)
Supporting students who have experienced trauma	3.78	3.78
Supporting students who are chronically absent	3.70*	3.15
Supporting students with special needs	4.30	4.07
Supporting ELLs	3.76	3.70

Note: * $p < .05$

MCP teachers had significantly higher perceptions of being confident in their ability to support chronically absent students than did comparison students. Perceptions of supporting other special needs students were not significantly different between MCP and comparison teachers.

Teachers were also asked a series of survey questions at mid-year relating to helping students learn remotely. MCP and comparison teacher responses are summarized in Table 14.

Table 14

Perceptions of supporting students, MCP and comparison teachers, mid-year

Item	MCP ($n = 68$)	Comparison ($n = 27$)
I empower students' families to help their children learn	4.00	3.74
I communicate student growth and progress to students' families	4.15	4.00
I can effectively teach students remotely	4.39**	3.81

I can easily transition between in-person and remote instruction	4.37***	3.52
I support my students in learning independently at home	4.48**	3.96

Note: ** $p < .01$; *** $p < .001$

MCP teachers reported significantly higher perceptions of their abilities to teach students remotely and support their students learning independently at home ($p < .01$). Furthermore, MCP teachers reported significantly higher perceptions of their abilities to easily transition between in-person and remote instruction ($p < .001$). With instruction switching among in-person, hybrid, and virtual modes through the 2020-21 school year, MCP teachers perceived being more ready to handle the unique challenges associated with these frequent changes in instructional models.

MCP teachers were asked open-ended survey questions in order to provide supplemental information regarding their program implementation. Surveys were administered both at the beginning of the school year (BOY) and at the midpoint of the school year (MY). In addition, comparison teachers, not involved with the MCP, were asked a series of questions related to their experiences with teaching during their MY survey. We begin with findings for MCP teachers at the start of the school year. Then, we present findings for MCP and comparison teachers at the midpoint of the school year.

Beginning of year. A total of 59 MCP teachers participated in a pre-MCP training survey in which open-ended queries addressed program selection and usage, as well as traits that MCP teachers sought in a mentor.

Program selection and usage. Teachers were asked to what extent they used MCP practices in their current classrooms and prior to MCP training. Roughly 70% of participants responded to this question. Of the teachers who did answer, almost a quarter (23.7%) responded that they did not currently use MCP practices in their classes, and a smaller subset of this group specifically noted that they would begin using MCP practices in the future. One teacher commented,

I have not used this strategy yet, but plan to use it in my teaching next year. I know I won't master everything all at once; I expect there to be a great deal of trial and error to master the blending learning strategy.

Another group of teachers responded that they used practices in their classroom that were similar to those used in the MCP, but not connected with the MCP itself. One teacher remarked, "I haven't used the specific model, but I have been incorporating more self-paced activities this school year, specifically with Nearpod." Of the teachers who did use MCP practices in their current classes, the most common practice used was self-paced structures, followed by blended instruction, and finally mastery-based grading. One teacher said,

This past year I implemented a blended learning approach in my math class. I had a two-day seminar with Kareem [Farah, the co-founder and CEO of the MCP] and loved the idea. When I tried out my unit, the student response was so positive, I decided to continue the year implementing the approach.

In answer to another open-ended survey question, teachers indicated that the three most common reasons for their having enrolled in the MCP Mentorship Program included:

- learning about and implementing self-paced structures in their classrooms (37.3%)
- becoming more familiar with blended learning and using technology in their classrooms, especially in terms of creating instructional videos (22.0%)
- better helping their reluctant learners or students with diverse needs (20.3%)

Teacher comments included “I want to create units of study so that my students have the ability to move ahead without having to wait for the others to catch up” and

I want to lower the levels of frustration in my classroom. I also want to be more available to help them succeed and help those students who either fall through the cracks or don't push themselves to their true ability.

Some teachers focused on their students in their comments, with a few (13.6%) seeking stronger student engagement or a better connection with their students. Another group of teachers believed the MCP would lead to better teaching or their own self-improvement, and others were interested in learning more about the strategies the MCP had to offer. One teacher stated, “I plan to implement the MCP technique so that all of my students will optimally learn and achieve.”

In addition to questions regarding program use and selection, teachers were asked what they looked for in a mentor. (As part of their training with MCP, each teacher participant was paired with a mentor teacher for coaching and support.) The most common responses are listed below:

- Someone who could provide general feedback, constructive criticism, advice, support, and guidance (66.1% of participants).
- A mentor who was knowledgeable and experienced with using the MCP already (32.2%).
- Qualities like kindness, patience, helpfulness, and respect (22.0%).
- A mentor who would be blunt, straightforward, and firm (17.0%).

Teacher comments regarding mentor attributes included the following:

An ideal mentor gives timely and specific feedback on what I can improve on as well as what I've done well and should continue doing.

Someone who will not let me slack or turn in half-baked work. I need someone who will give me hard truths and not let me get by easily.

In addition, teachers were asked if there was anything else they would like the MCP to know about them, or anything else that would be helpful in pairing them with a mentor. Some said they were already well-versed in using technology in their classrooms, while others expressed that they would need special help with adding technology to their classrooms. One teacher said, "I am very familiar with Google Classroom and have been using it now the past 2 years. I pick up quickly using new forms of technology and really enjoy it!" Some teachers took this opportunity to share details about their personal work habits, such as being a perfectionist or a "night owl," while others shared stories and explanations about their individual teaching situations.

Middle of the year. In the survey administered at the middle of the year, teachers involved with the MCP were asked a series of questions related to their experiences with the MCP thus far. A total of 68 teachers provided responses to this survey.

Changed teaching practices. Teachers were asked in what ways the MCP training had changed the instruction they provided their students. The largest group of teachers (36.47%) responded by talking about how their classrooms were now student directed or student paced. One teacher said, "Modern Classrooms has changed the way I deliver direct instruction. The entire structure of a self-paced classroom is very different from traditional." Some other teachers (22.1%) talked about the use of instructional videos in their classrooms, while some found their teaching to be more personalized or individualized (13.2%). One teacher remarked, "The instruction I provide is much more differentiated with Mild, Medium, and Spicy options provided for each assignment."

Smaller groups of teachers commented that changes to their instruction now allowed them to:

- provide a greater amount of one-on-one support for their students (11.8% of teachers)
- be better able to offer support to students with diverse needs (11.8%)
- have a new focus on mastery or specifically using mastery checks (10.3%)

One teacher commented, "I feel more comfortable knowing and being able to see where each student truly is through the assignments and mastery checks." And another stated, "It frees me up to be able to give my students quality time with me to re-teach and enrich their learning."

Student impact. When asked in what ways they believed MCP instruction had impacted their students' growth and learning outcomes, the largest group of teachers (33.8%) commented that they felt their students were better able to self-pace. One teacher reported, "They can learn at any time and pick up where they left off whether they are here or at home. They are learning the material far better." Another large group (32.4%) commented that their students were taking responsibility for their own learning and becoming more independent. One teacher said,

They are not afraid to take ownership of their learning (or misunderstandings) because they know that they have the support they need, and they will not be holding anyone else up by taking the time they need with the content.

Other teachers (14.7%) responded that the focus on mastery, revision, and instant feedback was helpful to their students. Smaller groups of teachers identified that their students experienced:

- a greater understanding of content (13.2%)
- an increase in engagement and enjoyment of class (8.8%)
- a greater confidence and willingness to take risks (7.4%)

One teacher noted, "The students work harder because they know they have to master a lesson before they can move to the next lesson," and another teacher observed, "They are more aware of learning targets, more reflective on their own progress, and more open to revision and don't fear failure or view it as an endpoint."

Student relationships. Teachers were then asked in what ways MCP training had affected their relationships with their students. The most common responses were that:

- relationships had improved or grown stronger because of the MCP (27.9%)
- there was a greater amount of one-on-one time that they could offer to students (20.6%)
- there was more time in general to spend with students (20.6%)
- there was improved communication between teachers and students (10.3%)

As one teacher observed,

Modern Classrooms has allowed me to build better relationships with students because now, instead of trying to juggle delivering instruction and managing behavior, I can sit next to a student and have a conversation about how they are really doing.

Finally, some teachers (11.8%) felt too hampered by the difficulties of teaching in a pandemic to see much change or to answer this question at all. One teacher commented, "It didn't allow me to build a relationship, since there was not enough time

to relate to students on a personal level since I was teaching hybrid and remotely simultaneously." Another group of teachers (10.3%) were unsure or found no change, generally because they already had a history of positive relationships with their students.

Attitudes toward teaching. The next open-ended survey question asked in what ways the MCP training had affected teachers' attitudes towards teaching as a career. The most frequent responses from teachers were that the program had:

- renewed or revived what their attitude towards teaching had been, or that they had more pride in teaching in general (20.6% of teachers)
- offered a new or better approach to teaching (17.7%)
- made teaching more sustainable (11.8%)
- made teaching more fun, exciting, and enjoyable (10.3%)
- improved their relationships with their students or gave them insights into student learning (8.8%)

Teacher remarks included "I left the summer institute feeling refreshed and excited to get started this school year. It definitely gave me a new spark for teaching" and "It lets me focus on the parts of teaching I enjoy which is building relationships and making learning fun and authentic."

Lesson planning. Both MCP ($n = 68$) and comparison ($n = 27$) teachers were asked three questions related to lesson planning. The first of these questions asked how many minutes on average it took teachers to plan a lesson and prepare that lesson's materials (see Table 15).

Table 15
Time involved for lesson planning and preparation

	MCP teachers (%)	Comparison teachers (%)
Time frame for lesson preparation		
Under 30 Minutes	10.29	3.70
30-59 minutes	23.53	37.04
1-2 hours	51.47	33.33
More than 2 hours	10.29	11.11
Unsure/unspecified	4.41	14.81

As shown above, a higher proportion of MCP teachers reported spending 1-2 hours on lesson preparation as compared with comparison teachers. One MCP teacher said, "One lesson takes anywhere from 40-60 minutes. However, once the unit is complete, I have it forever. To me, it is totally worth it." Another commented, "Since I am making all of my video lessons, I would say 2-3 hours. However, once I have all my video lessons and Units re-formatted I hope it is significantly less time in the future."

Both groups of teachers were then asked how many lessons they typically had on hand, “fully ready to go,” other than the one currently being taught (see Table 16).

Table 16

Number of pre-prepared lessons, MCP teachers and comparison teachers

Number of lessons	MCP teachers (%)	Comparison teachers (%)
None	2.94	3.70
1-2 lessons	32.35	29.63
3-5 lessons	16.80	22.22
1-2 weeks' worth	16.80	33.33
3-4 weeks' worth	5.88	0.00
More than a month's worth	5.88	3.70
1 unit's worth	16.80	7.40
Unspecified	4.41	0.00

Responses were somewhat comparable between MCP teachers and comparison teachers, though a greater proportion of comparison teachers reported having 1-2 weeks' worth of lessons prepared. As one MCP teacher said, “I usually only plan one lesson at a time fully but I have a general idea of what I need to do ahead of that one.” Another teacher replied, “I try to have as many lessons prepped that a student could get through in a week. So I like to have at least 5 ahead of my farthest student.” In the third question related to lesson planning, teachers were asked what their general lesson-planning process was. Table 17 illustrates the elements teachers described when outlining their lesson-planning process.

Table 17

Process used in lesson-planning

Process	MCP teachers (%)	Comparison teachers (%)
Map out main unit/learning objectives	35.29	22.22
Create videos/slides	42.64	11.11
Use tools such as Google Classrooms, SeeSaw, etc.	27.94	7.41
Create lessons, assignments, or activities	50.00	55.55
Review standards or guidelines/curriculum	32.35	16.36
Consult student data/interests/ability levels	8.82	22.22
Review previous lessons	2.94	18.51
“Backwards” planning	4.41	18.51

A majority of teachers in both groups described creating lessons, assignments, or activities as part of the process. More MCP teachers included creating videos or slides, using ed-tech tools, and mapping out main unit or learning objectives than those not participating in the MCP. In contrast, comparison teachers more often described

consulting student data, interests, and ability levels, as well as reviewing previous lessons and backwards planning. One MCP teacher described the process by saying,

I look at our curriculum guide for our math program, map out how many lessons/days I want to teach the objectives. I create slides for each lesson and then create the videos and checks to go along with the objectives.

A comparison teacher explained their system in saying, "I normally plan around the standards required for my curriculum and students with disabilities."

Finally, MCP teachers were asked if they had any other comments to add. Only about 28% of teachers provided responses to this question. Of the teachers who answered, the most common response (17.6%) was that MCP was beneficial to them and their students, or general gratitude for MCP. One teacher said,

I am so thankful that I have taken this class and that I have build [sic] Modern Classrooms into my curriculum. I cannot wait to do this when social distancing is not in place and students are able to sit next to each other and work together more.

Other teachers (11.8%) noted that teaching during the pandemic was especially hard, and in some cases had interfered with implementing the MCP, with one teacher explaining, "I just wanted you to know that I am not fully implementing Blended Learning because of this crazy COVID year. I just couldn't take one more thing on my plate."

Comparison teachers were presented with two questions regarding Modern Classrooms. First, they were asked to what extent they used MCP practices in their current classes. Respondents most frequently reported using blended learning, or having recorded lessons available (37.0%). Other practices that were named by teachers in their responses included the use of self-paced structures (28.6%) and mastery-based grading (25.9%). Smaller numbers of teachers reported using a flipped classroom structure. Teachers' comments included "Due to distance learning, I incorporate self-paced structures about 40-50% of the time. I also use mastery-based grading because it is an IB component (and, I believe, good practice)" and "I use a flipped classroom where students watch and [sic] educational video I prepare and then they complete the work after." Nearly one-fifth (18.5%) of teachers reported using no MCP practices at all.

Comparison teachers were then asked to describe their perceptions of the MCP. In their responses, one-third of respondents did not know enough about the MCP or had never heard of it. Of the teachers who had heard of the MCP, a few (18.5%) had generally positive impressions of the program but didn't offer any specifics. A smaller group of comparison teachers said they believed that students in a MCP classroom were

independent or self-paced. One teacher wrote, “Honestly, I don't know too much about it! I think of it as a flipped classroom model, but am not sure if that is correct.” Another smaller group of teachers expressed interest in knowing more about the MCP or using it themselves, with one remarking, “Modern Classroom[s] seems amazing and I'd love to try using it in my classes.” Only 11.1% of comparison teachers reported personally knowing a teacher or teachers who were using Modern Classrooms.

When teachers were asked if they had any other comments, a small number (11.1%) of participants gave responses to this question, with one teacher writing that the MCP “seems like an awesome program,” and another expressing their concern that “sometimes Modern Classrooms based methods lead to effective learners moving more quickly through content, but not necessarily going deeper into it—I have seen it be very knowledge and skills based, in practice, rather than understandings based.”

Teacher Interview Results

Twenty-one MCP teachers participated in interviews to obtain a more in-depth exploration of their program experiences, activities, and reactions. Participants taught in charter schools ($n = 8$), DCPS ($n = 5$), Bellwood-Antis SD ($n = 5$), and Frontier Central SD ($n = 3$). Ten of the teachers interviewed taught high school, nine taught middle school, and two taught elementary school. The median experience for the 21 participants was 10.8 years. Subjects taught included reading/language arts, math, social studies, the sciences, and music.

MCP Training. Interview participants were unanimous in expressing that the training that the MCP provided was productive and left them well-prepared to implement the program within their own classrooms. The training sessions described ranged from three days, one week, two weeks, a few weeks, to a condensed session. Interviewees used words such as “absolutely” and “definitely” when asked if they felt prepared to implement the MCP. The most identified reason for this was the completion of a unit that allowed them to “hit the ground running.” Teacher comments included “I think it's the most productive PD I've ever had. I've heard others say the same” and

All of that training that I got over the summer has been invaluable. I can't even put a sticker price on what I would pay to have that now because it's made me a super effective classroom teacher. It's a virtual world where I can tailor everything to 20 kids that I might not have even met before. And they can feel like they're having a personal video with me.

Also included in the favorable reviews of their MCP training were feedback on exemplars, access to a bank of resources that provided assurance that they could meet the primary requirements of the program, and prompt response to questions that arose. Providing mentors was identified as highly beneficial as they were available for support of any kind. One stated, “[I was] one hundred percent scared but prepared because of

[my] mentor." Several participants also noted the work and effort that the training required, with one commenting that it was "long and intense, but in a good way."

Participants were asked to name the supports that they found most helpful in implementing the MCP in their classrooms. Mentor and coaching assistance were the two most frequent responses to this query. Participants also indicated that they utilized Facebook, Slack, and Twitter for program support. One teacher commented on their Facebook experience, saying that

[Other implementers] are really great at taking ideas, twisting them into something even better, and then sharing those resources out. For example, I'm teaching a [new course] next year. Someone in the Facebook chat randomly posted the complete curriculum, a huge document with every lesson scoped out, for anyone to use who could. Just amazing! I saw it the same week I was assigned the course, and I was like, "Oh my gosh, you just saved my life!"

Finally, participants were asked to identify any additional professional development (PD) needs that they still required, and responses to this were varied. Roughly one-quarter of participants did not identify any additional PD needs, with one commenting, "Once you do it for a quarter or two, you understand what students need." Four teachers (19%) needed help in the development and fine-tuning of relevant and engaging videos, with one teacher suggesting use of a software or video editing platform. Smaller numbers of participants requested program updates for experienced MCP teachers, further help with mastery checks, or observations with feedback.

MCP implementation. Given that instructional formats often changed during implementation during the 2020-21 school year—in-person, hybrid, and virtual—implementation was varied for some and constant for others. Participants were asked to describe implementation in their own classrooms, and several teachers indicated that the program had positioned them well for teaching in a virtual classroom, with one observing, "I feel grateful to have the Modern Classrooms training because it provided me a consistent framework for instruction." Another teacher described their experience by saying,

With this whole past year, it could have been a demoralizing year for teachers. When we kept switching formats, teachers were stressing out, and in a way I felt kind of guilty because I was able to think, "My students are good." We had a snow day and everyone logged in and off we went with our bell ringer. My students got just as much content as my previous classes. In a sense, it's relief. Without this I wouldn't have gotten through half as much as we did.

For all teachers, there was defined similarity in the structures and systems put into place for teaching and learning. These include the introduction to the lesson, short but engaging videos, guided notes, posted progress tracker for students to identify lessons and groups they should be engaging with, self-paced learning, and mastery checks. One participant observed, "The beauty of Modern Classrooms was that no matter how we were implementing, me and my students didn't miss a beat," and another noted, "[I]f you're using this model, you can't teach everything you did before because students are doing deeper learning, so you have to refine your curriculum."

Teacher organization was considered essential for success with the MCP, as students in their classrooms demonstrated a wide range of ability. With this organization, teachers found they had more time to address individual, small-group, and whole-class needs. Having extra time, thanks in part to rigorous unit/lesson planning, was a bonus for teachers and students. With the MCP, teachers discovered they did not have to continually repeat directions or instructions, as appropriate grouping allowed students the opportunity to provide instruction and answers for each other. As one teacher stated, "I have the time to pull those [who are] behind or [who] need to be challenged." Teachers also reported that providing timely feedback to students was vital for positive learning outcomes. One teacher noted, "I like to grade portions of their practice to make sure they are on track so the mastery check isn't a shock," and another added, "The thing I really like about Modern Classrooms is its focus on individual students and making sure that kids are getting one-on-one attention."

Next, participants were asked how implementation had changed across the school year. While COVID-19 created challenges for teachers and students as many shifted from one instructional format to another, the majority of teachers remained committed to implementing the MCP framework, with one commenting, "Modern Classrooms was ideal for this moment." Participants recounted that for some students group work was difficult, and for some it was eliminated altogether. Noted one teacher, "Learning became linear: all doing the same activities, but at their own pace." Several participants stated that they made shorter, more succinct videos or they eliminated them altogether. Others detailed how many students did not have the opportunity to work with each other as effectively during the pandemic, and their instructors had difficulty always providing timely feedback. Nonetheless, some teachers felt it was the consistency of implementing the MCP virtually that made it easier for students to learn and succeed in a difficult time. Roughly one-third reported that few, or no, implementation changes were made during the school year, regardless of the format of instruction.

Participants were asked what had been easy about implementing the MCP approach. In general, responses indicated that teachers found many aspects of the program easy to implement, with two teachers saying that "everything" had been easy to implement. Participants expressed that they felt confident in the program and their ability to use it, with one saying, "[I]t's not a come and go program. [It is] at the core

of something I believe in. Buy-in was the easiest part." While front-loading instruction was described as being a "heavy lift," participants identified it as worth the time it required, with one teacher commenting, "When class starts, you're fully prepared....It makes class relaxed and less hectic." One teacher observed that the extra time the program afforded them gave them the ability to provide more differentiation and the opportunity to help students to catch up if they had been absent: "[The MCP] saved me a lot of headaches. [I was] able to prepare units no matter the format. So nice." Teachers also noted that program use became easier over time.

Teachers also reported that the MCP provided full knowledge of apps and how to make comprehensive videos. A teacher observed, "Once created, they are easy to tweak and implement." Having a daily format and routine in which everyone knew what to do, along with the wealth of resources, made implementation easier. According to one teacher,

It's been amazing to watch students work and see how 25-50% are incredibly self-sufficient the vast majority of the time. It's been beautiful to see them work. It's been easy for me to check in with students and to come to class because I don't have so much to do. Definitely easier to help my bottom tier of students.

Participants also communicated that the pacing tracker held them accountable with grading and their students accountable for where they were in their learning. This accountability made grading transparent and opened conversations with parents. As one participant stated, "It's been really easy to open up my gradebook to everyone. What my students see is what I see. That aspect of mastery-based learning opens a conversation with parents, too. But you have to keep it updated!" Additionally, participants noted that students enjoyed the work and were aware of the expectations. Said one, "I have never been able to figure out how to talk to 30 kids at the same time without having to repeat myself. It was very easy to have kids know exactly what to do."

Participants were next asked to identify aspects of program implementation they found challenging. The most common response (35%) was the time spent front-loading the work. Other challenges that were named included problems with technology (10%), the progress tracker (10%), grading (10%), and student accountability (5%). The two technology issues that were cited were, first, that not all virtual students had access to computers and some lacked the technological skills needed for success, and, second, the teachers' own "personal lack of knowledge."

Some teachers described incidences in which challenges ultimately became successes. Comments included the following:

I spent hours and hours on my first unit until once I got the handle of it. I built it into a Google Classroom, and it got easier and easier and easier.

I plugged my videos into Edpuzzle, and once that [was] established, the class ran itself. It freed me up to help kids and focus on the ones who fall through the cracks.

Twenty students doing 20 different things, beautiful—but a challenge.

Finally, teachers identified specific challenges that were tied to the students. Those challenges included less motivated students who fall behind, students who do not revise their work, students who feel overwhelmed by the amount of work, and a statement by one teacher that “10% of the students just don’t like it.” Identifying a challenge for one teacher was not possible; this teacher stated, “This isn’t the best year to draw my conclusion regarding implementation.”

Teacher impact. All but one teacher interviewed reported a positive impact of the MCP on their ability to deliver academic content. The one teacher who expressed reservations on commenting on the program’s impact in this area stated, “I don’t know if it has changed the amount or the quality [of my delivery].” Otherwise, teacher feedback was positive, with teacher comments that included “I think that Modern Classrooms has definitely been the catalyst for me to question the way that I’m doing things in my classroom and optimize it for student learning” and “It has definitely impacted in a positive way. I am able to spend more time making real world connections. Students are now seeing the importance of STEM and are even taking more interest in it as a career.” Several participants noted that their delivery of information was more concise and intentional, with one declaring, “I don’t have to worry about making sure students know what they’re doing—they do.” Teachers acknowledged the large amount of time spent on planning but were willing to do so to reap the benefits of that planning. As one commented, “I think it’s been awesome being able to sit down and plan a whole unit at a time. I didn’t do that before. I am fully prepared when they come to class.” The one teacher (5%) not in assent stated, “I fear [my students] are just checking boxes rather than really engaging with the material.”

Roughly half (52%) of the participants specifically indicated that the MCP had positively impacted their ability to meet the needs of individual children academically. Reported one, “It’s so much easier. I feel like I can differentiate. I can meet every kid, from my most advanced to the most struggling.” A small number of teachers mentioned observing an improvement in behavior resulting in an improved classroom climate. Given the difficulties of teaching through the pandemic, teachers reported students were more attentive and accountable regardless of the format of instruction, and one stated, “Quarantined, sick, here, remote; I had students coming and going. They didn’t miss a beat.”

A large majority of those interviewed also indicated that the MCP had a positive impact on their relationships with their students. In their responses, they attributed this to the way the program’s design gave them more time they could spend working directly with the students. One stated that since they were able to “talk with students more, [it was] not as easy for kids to fall through the crack both academically and

relationally.” Participants reported that most students felt material in their MCP classroom was accessible to them, giving them confidence in asking for help. Responses also showed that participants viewed the implementation of the MCP as a way to open communications between teachers and students and to allow them to get to know each other on a more personal level. One participant remarked,

Oh, it's been huge. I just hang out with my kids. Now, it's so much better. My relationships are so much more positive than they were before. It so changes the whole relationship and the feeling of the room and whether you want to be there or not.

In the final interview question regarding teacher impact, participants were asked to what extent the MCP had affected their attitudes towards teaching. All but two of the participants (95%) reported that they intended to continue teaching, and the majority gave credit for this, to some degree, to their having implemented the MCP. One teacher leaving the profession stated teaching would only be an option in the future if it were in an MCP Classroom. One teacher described the impact of the program on their career by saying, “I definitely think it’s the reason why I won’t quit teaching. It made it more sustainable. [It] brought more joy back in the classroom. I was considering not teaching any more, but this has made me feel really good.” Their statements regarding the impact of the MCP indicated that, for many, it provided them with the tools to continue as educators. Said one, “There was a point last year where I wasn’t sure I could do this year after year, running after an unreachable goal. Now I feel like I’m creating something that’s self-sustainable.” Participants also liked the energy in MCP Classrooms, with one participant commenting, “I was getting burned out. I didn’t realize it wasn’t the workload—it was feeling that I wasn’t doing enough. Now I feel satisfied at the end of the day. It’s made me love teaching again.” Five teachers (24%) went so far as to say that they would not remain in the field if they were not in an MCP Classroom. Reported one, “[The MCP] makes me want to stay in education. Most teachers feel a burnout after six to ten years. I feel like a new teacher all over again.”

Student impact. When asked if the MCP approach impacted student learning this year, twenty teachers (95%) provided positive feedback, with one participant saying, “[I]t was hard to judge.” Overall, participants believed that students who felt hopeless about their performance in school were empowered to master content as long as they were self-motivated enough to do so. The MCP provided equity in education once hurdles such as access to and skills needed for technology were addressed. Positive student outcomes that were most frequently mentioned by interview participants were the following:

- Increased level of learning
- Increased student satisfaction
- Increased success for those failing/falling behind
- Greater depth of learning

Related teacher comments included “I’ve had fewer students fail this year than any year. I credit a lot of that to Modern Classrooms” and “I can tell you they’re doing better than those with the other science teacher. I think they’re learning more, but they’re also learning more in depth, covering more content and covering it really well.”

Based primarily on their impressions of their students’ increased self-awareness and ownership of their own learning, all but one interviewee deemed that the program had had a positive impact on the social-emotional growth of students. The one participant who did not identify a change in social-emotional growth in their students during the school year explained, “I’ve always had a hard time implementing the goal that students doing self-paced work will find one another. I thought it was isolating last year. They didn’t need to interact to be successful, so they didn’t interact.” Increased confidence was identified in students readily asking for and/or providing help, and in their taking on more leadership-type roles within the classroom. Observed one participant,

[The MCP] gives them the chance to work with one another more. You see more students stepping into that leadership role. A lot of students’ confidence levels are going up, whether they’re the struggling student or the one that’s helping them.

Responses also indicated that the program assisted in providing students the skills and opportunities to communicate more effectively. One teacher said, “Modern Classrooms helped some students come out of their shell. Collaboration is a powerful thing—they crave it.” In describing changes in student social-emotional growth, participants reiterated the impact of the additional time that the MCP afforded them as teachers. This time could be spent building relationships between themselves and their students as well as fostering communication between students.

Interview participants were united in stating that the MCP met the needs of most students. Citing the MCP mantra, “do what works for your students,” teachers indicated they had the ability and the encouragement to do so. Commented one, “I teach general education, special ed, and accelerated learners, and Modern Classrooms has been highly impactful in a positive way for all three of these groups.” Teachers described being empowered to meet the needs of students and students being empowered by having their needs met, making school more meaningful for all. Multiple reasons were given for success in meeting student needs. These included the time to differentiate, which fostered the teachers’ ability to meet the individual needs of students “on both ends of the bell curve,” and the ability for absent students to catch up on their own without significant teacher support. Several participants commented that the virtual classroom had been challenging in this regard, with one stating, “Yes I do. I think the big hurdle here was that the technology piece, not just for me but also for some of our needy children.” Participants identified their recorded videos as being an important tool for meeting student needs. Not only did their use free up more time for teachers, but

videos also gave students the ability to review content at any time and as many times as needed. Students whom participants identified as being those whose needs were not being met were those who were described as being “off the grid” due to lack of participation in virtual instruction, or students who were not motivated to complete work or manage their trackers.

Overall Perceptions. When asked to identify strengths of the program, participant input was extensive. The three most frequently named program strengths were

- differentiated/personalized learning for students
- teacher and student accountability
- support network for implementers

Participants valued the program’s flexibility and self-paced structure that allowed them to provide instruction to each student at his or her own level. A high degree of accountability for teachers and for students was another acknowledged strength of MCP implementation. To provide targeted learning, teachers had to grade and evaluate students in a timely manner. Students had to assume responsibility for their learning in a self-paced environment, requiring them to demonstrate mastery to progress. The program aided in this by holding individuals and groups responsible for their commitment to themselves and in their collaboration with others. Support from program staff, mentors, and colleagues implementing the MCP was considered a primary strength, and responses demonstrated that the access to resources was also valuable, with one participant saying, “There are so many tools coming out all the time, teachers are overwhelmed. Modern Classrooms does the legwork of figuring out what’s worth using and what’s not.”

Participants also reported that the program provided them with newfound time, with one commenting that the approach “creates a more stress-free environment, frees me up to help, [and] allows for more collaboration between [the] students and me and [the] students with each other.” Finally, instructional videos were also identified as a program strength, being highly beneficial to students. A teacher noted, “Students can access videos anywhere. They don’t lose out even with chronic absenteeism, and it frees up the teacher to really assess [the students.] Modern Classrooms lets you clone yourself.” Teachers also indicated that the videos gave parents information on the academic learnings of their student as well as insight into the teacher’s method of delivery and the expectations set forth. There was agreement that clear learning targets, ease of differentiation, and the review and revision process were among the strengths of the MCP. Sustainability of the program was identified as a strength, as well as a motivation for implementation. A teacher stated,

I think it’s the future of teaching. There’s so much opportunity for learning for students on the internet. Figuring out how to leverage that and

combine it with a teacher's personal spin is very cool. I feel like that's what my classroom is doing.

Suggestions for improvement. Over a quarter (28.6%) of the interviewed teachers stated they had no suggestions for program improvement, with one participant stating, "Everything I'm doing really works for me." The most common suggestion among the remaining participants was for varied forms of additional professional development. Several participants requested ongoing PD with the MCP, as well as additional opportunities for group collaborations of teachers via Zoom. This was requested both as a way to share and gain knowledge on program use and to stay current with revisions or updates to the program. One teacher related that they would be interested in "developing conversations related to teaching a specific course. I think this self-pacing would be very challenging in a course like Chemistry with its labs." Participants valued and would like more opportunities to share instructional units with mentors in order to gain feedback and suggestions for improvement. Others specified areas within which they would like to be better skilled, including how to "keep up" with instructional demands such as grading and lesson planning, how to build community with children of color and to foster relationships among students of differing ability levels, and how to capture and motivate students who showed little to no interest in participating in an MCP classroom. A small number of teachers recommended that school administrators receive training to increase their understanding of the MCP in their schools, with one commenting, "I wish that some of it was pushed out to the administration more so that they understand it. I sometimes get poor evaluations." Finally, participants would like more instruction or suggestions for related software to aid in creating and editing "better" instructional videos for their students.

Willingness to recommend the MCP. Participants were unanimous in reporting that they would recommend the MCP to other teachers, and many indicated they already had. The only caveat came from two participants who recommended that teachers considering the MCP do so knowing of the significant work required during the first two years of implementation. Several teachers reported they had felt burnt out and considered leaving the profession, but the MCP had transformed their teaching experience, giving them renewed energy and enthusiasm to continue. Commented one, "[I]t's been the most transformative thing I've done in my teaching career." Participants expressed an appreciation for many aspects of the program, including having additional time, stronger relationships with students, grading that was transparent and easy to communicate to students and parents, and improved classroom climate and culture. Said one, "I was a hesitant implementer, but as I looked, I got pulled in," and another commented, "It's a game changer. It has changed the way I teach, the way I run my classroom, and it has rejuvenated me!"

Student Reactions

In this section, we examine student perceptions of learning and the support received in classrooms. Survey responses of students of MCP teachers are compared with those of students from non-MCP (comparison) teachers by item, using independent t-tests. In addition, we compared responses of MCP students across different time points using dependent t-tests. As with teacher survey items, student survey items used a 5-point Likert scale. We further divide this section into non-DCPS students and DCPS students, as the timing of survey administrations were different for each group of students. As with teacher survey results, caution should be exercised as participant groups may not be comparable.

Non-DCPS student reactions. We begin by outlining perceptions of learning from non-DCPS students. MCP students in these 11 schools were administered the survey at the beginning and midpoint of the year, and comparison students were administered the survey at the midpoint of the year, similar to MCP teachers and comparison teachers.

Self-directed learning and skills development. One of the important features of the MCP model is self-directed learning for students. Table 18 shows the average responses on these six survey items for MCP and comparison students.

Table 18

Skills development, MCP and comparison students, mid-year

Item	MCP (<i>n</i> = 1281)	Comparison (<i>n</i> = 213)
I am learning how to use technology	3.71*	3.32
I am developing good study habits	3.82	3.89
I can teach myself new academic content and skills	3.93*	3.74
I can catch up if I miss class	4.28**	4.08
I can complete challenging assignments without giving up	4.05	3.96
I learn from my peers during class time	3.54	3.43

Note: * $p < .05$; ** $p < .01$

Items were rated on a 5-pt Likert-type scale, 1= "strongly disagree", 5= "strongly agree"

As shown above, MCP students reported significantly higher perceptions of catching up if they miss class ($p < .01$), and MCP students reported significantly higher perceptions of learning how to use technology and teaching themselves new academic content and skills ($p < .05$).

Table 19 details average survey responses for these six survey items at the beginning and midpoint of the school year.

Table 19

Skills development, MCP students over time (n = 711)

Item	Beginning of	
	year	Mid-year
I am learning how to use technology	4.22**	3.76
I am developing good study habits	3.86	3.86
I can teach myself new academic content and skills	3.85	3.96**
I can catch up if I miss class	4.22	4.33**
I can complete challenging assignments without giving up	4.09	4.09
I learn from my peers during class time	3.82***	3.58

Note: ** $p < .01$; *** $p < .001$

MCP students reported significantly higher perceptions of teaching themselves new academic content and catching up if they miss class at the middle of the year ($p < .01$). However, MCP students reported significantly higher perceptions of learning how to use technology ($p < .01$) and learning from peers during class time ($p < .001$) at the beginning of the year.

Self-efficacy. The MCP model provides students with greater autonomy of their learning, which can lead to increased student self-efficacy. Table 20 shows the average survey responses of MCP and comparison students to the four self-efficacy survey items.

Table 20
Self-efficacy, MCP and comparison students, mid-year

Item	MCP	
	($n = 1281$)	Comparison ($n = 213$)
I am responsible for my own learning	4.07	4.08
I really understand what I'm learning	3.98	4.12*
I enjoy learning	3.75	3.77
I am capable of learning anything	3.98	3.89

Note: * $p < .05$

Comparison students' perceptions of really understanding what they were learning were significantly higher than MCP students' perceptions ($p < .05$). No other differences were found.

Average responses to self-efficacy survey items at each time point are summarized in Table 21.

Table 21
Self-efficacy, MCP students over time ($n = 711$)

Item	Beginning of	
	year	Mid-year
I am responsible for my own learning	4.03	4.10*
I really understand what I'm learning	3.97	4.00
I enjoy learning	3.73	3.79

I am capable of learning anything	3.95	4.00
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Note: * $p < .05$

At mid-year, MCP students had significantly higher perceptions of being responsible for their own learning ($p < .05$).

Teacher-student relationships. Students were asked a series of five survey questions concerning their relationships with their teachers. Table 22 displays the average responses to these survey items for MCP and comparison students at the midpoint of the school year.

Table 22

Teacher-student relationships, MCP and comparison students, mid-year

Item	MCP ($n = 1281$)	Comparison ($n = 213$)
My teacher knows my strengths and weaknesses	3.80***	3.48
My teacher cares about me as an individual	4.22**	4.03
My teacher gives me personal support and encouragement	4.11***	3.85
My teacher challenges me to learn as much as I can	4.20	4.09
I have a good personal relationship with my teacher	3.80*	3.55

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

MCP students perceived having significantly better personal relationships with their teachers ($p < .05$) and thought their teachers cared about them as individuals more ($p < .01$). MCP students also had significantly higher perceptions of their teachers knowing their strengths and weaknesses and offering personal support ($p < .001$).

MCP students' perceptions of their relationships with their teachers over the school year are displayed in Table 23.

Table 23

Teacher-student relationships, MCP students over time ($n = 711$)

Item	Beginning of year	Mid-year
My teacher knows my strengths and weaknesses	3.91	3.86
My teacher cares about me as an individual	4.17	4.26**
My teacher gives me personal support and encouragement	4.08	4.15
My teacher challenges me to learn as much as I can	4.20	4.22
I have a good personal relationship with my teacher	3.97*	3.88

Note: * $p < .05$; ** $p < .01$

At the middle of the year, MCP students had higher perceptions of their teachers caring about them as an individual ($p < .01$). However, at the beginning of the year, students perceived having better personal relationships with their teachers ($p < .05$).

Engagement. The student survey contained five items regarding students' perceptions of how engaged they are in their classes. Table 24 displays average Modern Classrooms and comparison student responses at the midpoint of the school year.

Table 24
Engagement, MCP and comparison students, mid-year

Item	MCP (<i>n</i> = 1281)	Comparison (<i>n</i> = 213)
I use class time effectively	4.15*	4.00
I behave well during class	4.51*	4.38
I always have something challenging to do in class	3.95***	3.68
I am learning things that are relevant to me	3.84	3.76
I care about what I am learning	3.93	4.05

Note: * $p < .05$; *** $p < .001$

MCP students had significantly higher perceptions of always having something challenging to do in class ($p < .001$). MCP students also perceived they used class time more effectively and behaved well during class ($p < .05$).

MCP students also reported that their perceptions of engagement changed throughout the school year. Table 25 shows perceptions of engagement at the beginning and middle of the year.

Table 25
*Engagement, MCP students over time (*n* = 711)*

Item	Beginning of year	Mid-year
I use class time effectively	4.24	4.18
I behave well during class	4.46	4.54**
I always have something challenging to do in class	3.86	3.99**
I am learning things that are relevant to me	3.85	3.86
I care about what I am learning	4.05**	3.94

Note: ** $p < .01$

MCP students reported significantly higher perceptions at mid-year of behaving well during class and always having something challenging to do in class ($p < .01$). However, MCP students reported significantly higher perceptions at the beginning of the year of caring about what they are learning ($p < .01$).

Overall course rating. MCP students and comparison students rated their courses very similarly, with no significant differences between average student responses on either overall course rating survey item (see Table 26). Comparison students' overall course ratings were slightly higher on both items, but not significantly so.

Table 26

Overall course ratings, MCP and comparison students, mid-year

Item	MCP (<i>n</i> = 1281)	Comparison (<i>n</i> = 213)
I like the way my teacher teaches this class	4.28	4.36
I would like to take more classes like this one	3.79	3.83

DCPS student reactions. In this section, we overview survey results for DCPS students. As discussed previously, timing of survey administrations differed in DCPS classrooms, as students were administered surveys at the start and end of the second semester of courses. Comparison students were surveyed at both time points, although the number of comparison students was relatively small, and was comprised of different students at each administration (only seven comparison students completed both start and end of semester surveys). Thus, MCP students' and comparison students' average survey responses were compared at the start and the end of semester, and MCP students' responses at the start and end of the semester were compared to examine potential growth over time.

Start of semester comparisons. Only one of the survey items contained responses that were significantly different between MCP and comparison students at the start of the semester. This item was "I am learning how to use technology." MCP students' perceptions of learning how to use technology were significantly higher than comparison students' perceptions ($p < .05$). Tables containing all mid-year comparisons of average survey responses may be found in Appendix D.

End of semester. We analyzed end of semester survey responses in a similar manner to how we analyzed mid-year survey responses from non-DCPS students. For each subset of survey items, we compared responses between MCP and comparison students, as well as compared start and end of semester responses for MCP students who responded to both survey administrations.

Self-directed learning and skills development. Table 27 displays average responses of DCPS students to the six survey items relating to self-directed learning and skills development for MCP and comparison students.

Table 27

Skills development, MCP and comparison students, end of semester

Item	MCP (<i>n</i> = 312)	Comparison (<i>n</i> = 82)
I am learning how to use technology	3.44	3.38
I am developing good study habits	3.77	3.64
I can teach myself new academic content and skills	3.86*	3.59
I can catch up if I miss class	4.24	4.11

I can complete challenging assignments without giving up	3.99	3.80
I learn from my peers during class time	3.69**	3.27

Note: * $p < .05$; ** $p < .01$

MCP students had significantly higher perceptions of learning from their peers during class time ($p < .01$) and teaching themselves new academic content and skills than did comparison students ($p < .05$).

Table 28 outlines average survey responses on skills development items at the start and end of the semester.

Table 28
Skills development, MCP students over time (n = 192)

Item	Semester start	Semester end
I am learning how to use technology	3.54	3.44
I am developing good study habits	3.88	3.88
I can teach myself new academic content and skills	3.88	3.93
I can catch up if I miss class	4.17	4.30
I can complete challenging assignments without giving up	3.91	4.07*
I learn from my peers during class time	3.80	3.76

Note: * $p < .05$

MCP students had significantly higher perceptions of completing challenging assignments without giving up at the end of the semester ($p < .05$).

Self-efficacy. MCP students' and comparison students' perceptions to the four survey items relating to learning self-efficacy are summarized in Table 29.

Table 29
Self-efficacy, MCP and comparison students, end of semester

Item	MCP (n = 312)	Comparison (n = 82)
I am responsible for my own learning	4.12	4.05
I really understand what I'm learning	4.00	3.96
I enjoy learning	3.83*	3.60
I am capable of learning anything	4.14*	3.96

Note: * $p < .05$

MCP students had higher perceptions of enjoying learning and feeling they are capable of learning anything than did comparison students ($p < .05$).

MCP students' perceptions of learning self-efficacy over time are displayed in Table 30.

Table 30

Self-efficacy, MCP students over time (n = 192)

Item	Semester start	Semester end
I am responsible for my own learning	4.20	4.20
I really understand what I'm learning	3.93	4.11**
I enjoy learning	3.83	3.94
I am capable of learning anything	4.16	4.20

Note: ** $p < .01$

MCP students' perceptions of understanding what they were learning were significantly higher at the end of the semester ($p < .01$).

Teacher-student relationships. MCP and comparison students' perceptions to the five survey items relating to teacher-student relationships are displayed in Table 31.

Table 31

Teacher-student relationships, MCP and comparison students, end of semester

Item	MCP (n = 312)	Comparison (n = 82)
My teacher knows my strengths and weaknesses	3.60	3.65
My teacher cares about me as an individual	4.25	4.17
My teacher gives me personal support and encouragement	4.16	4.06
My teacher challenges me to learn as much as I can	4.25	4.20
I have a good personal relationship with my teacher	3.74	3.56

No significant differences between MCP and comparison students were found on survey items related to teacher-student relationships.

Table 32 shows how MCP students' perceptions of their relationships with their teachers changed from the start to the end of the semester.

Table 32

Teacher-student relationships, MCP students over time (n = 192)

Item	Semester start	Semester end
My teacher knows my strengths and weaknesses	3.27	3.69***
My teacher cares about me as an individual	4.08	4.28***
My teacher gives me personal support and encouragement	3.99	4.18**
My teacher challenges me to learn as much as I can	4.03	4.32***
I have a good personal relationship with my teacher	3.49	3.81***

Note: ** $p < .01$; *** $p < .001$

MCP students' perceptions of teacher-student relationships were consistently higher at the end of the semester on all five survey items.

Engagement. Students' perceptions of survey items relating to engagement are displayed in Table 33.

Table 33

Engagement, MCP and comparison students, end of semester

Item	MCP (<i>n</i> = 312)	Comparison (<i>n</i> = 82)
I use class time effectively	3.93	3.75
I behave well during class	4.50	4.60
I always have something challenging to do in class	4.07***	3.58
I am learning things that are relevant to me	4.04**	3.72
I care about what I am learning	4.12*	3.88

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

MCP students had higher perceptions of caring about what they are learning ($p < .05$), learning things that are relevant to them ($p < .01$), and always having something challenging to do in class ($p < .001$) than did comparison students.

MCP students' average perceptions of engagement over the school year are displayed in Table 34.

Table 34

Engagement, MCP students over time (n = 192)

Item	Semester start	Semester end
I use class time effectively	4.09	4.04
I behave well during class	4.55	4.56
I always have something challenging to do in class	3.89	4.16***
I am learning things that are relevant to me	4.03	4.07
I care about what I am learning	4.21	4.18

Note: *** $p < .001$

MCP students' perceptions of always having something challenging to do in class were significantly higher at the end of the semester ($p < .001$).

Overall course rating. Students' average perceptions of their courses at the end of the school year are displayed in Table 35.

Table 35

Overall course ratings, MCP and comparison students, end of semester

Item	MCP (<i>n</i> = 312)	Comparison (<i>n</i> = 82)
I like the way my teacher teaches this class	4.42***	4.01
I would like to take more classes like this one	4.02***	3.47

Note: *** $p < .001$

MCP students' overall perceptions of their courses were significantly higher than were those of comparison students ($p < .001$).

In open-ended survey questions administered at the mid-year (non-DCPS) or start of the semester (DCPS), MCP students ($n = 1,732$) and comparison students ($n = 309$) from schools were asked three questions regarding their classroom experience: 1) what they liked most, 2) what they would change, and 3) whether they had any additional comments. These questions were asked again in surveys administered at the end of the year/semester to both MCP students ($n = 312$) and comparison students ($n = 82$) from DCPS schools only. Results were highly consistent in the two survey administrations.

What students liked most. Mid-year/start-of-spring-semester survey results showed that the most common response (31.1%) from MCP students regarding what they liked most was the classwork and learning itself. One student related that they liked "learning new things that fit my style," while another added, "I enjoy the things we are learning in this class." Students singled out the videos, activities and the opportunity to learn new things as favorite aspects of their learning. One student stated, "The videos are really straightforward and easy to understand." Roughly a quarter of students (22.5%) said that the thing they liked most was their teacher and the way they taught, from the way they explained material to the way they offered support. Student comments included:

I love how much my teacher cares about us. Her passion for biology is very clear.

I like the way my teachers teaches the subject it really encourages me to keep learning more and more.

The teacher really helps everyone fully understand the project. He cares about our time so he would never lecture us. I also like how the teacher really engages with everyone and includes everyone in conversation. Whether it's regarding school work or not.

Rounding out the top three responses for "like most" was the self-paced/independent learning style (19.1%) of the classroom. Students described having a sense of freedom to do their work without feeling rushed. Comments included the following:

I like how it is self-paced so I can work on whatever I want and as fast or slow as I want. So while one person can be doing one thing I can be doing another. And if anyone is struggling the teacher is always available to answer questions and help us out.

I've never liked math because I always got frustrated but, in this class I can learn at my own pace and develop a deeper understanding of the material.

Smaller numbers of students identified other aspects of the class they liked, which included:

- The engaging/interesting/challenging nature of the classwork, which made learning more fun
- The classroom environment, which was described as being friendly, calm, safe, and productive
- Coursework that was easy to understand
- Being able to work in teams or pairs and to get help from peers

A small group of DCPS students (4.8%), who were surveyed at the start of their new semester, indicated that they did not know/did not know yet what they liked most about the class. Student comments included "I've only been in this class for about a week and some days" and "Not really sure because we just started."

Like the MCP students, at the start of the semester, comparison students also named their classwork/learning and their teachers as the things they liked most about their class. Over a quarter of students (28.7%) specified liking the actual process of learning and learning of new things, as well as the topics covered in their given classrooms. One student stated that what they liked most was "that we learn about relevant topics, and everything is true. My teacher does not shield any troubling information or events from us, we talk it out." A slightly smaller number of students (28.1%) responded that they liked the classroom teacher and the way class was taught. Students also enjoyed the class for its being fun and interesting. Student comments included "I like the work we do and how we do it. I'm interested in the topics we learn and I find the class fun" and "It's more fun to learn in this class than other classes." Some students also liked the fact that their classwork was easy to understand (9.0%), while others favored the fact that the classroom had a self-paced/independent learning structure (5.5%). Smaller numbers of students identified other aspects of the class they liked, which included their friends and classmates (3.9%) and the classroom environment, particularly the good rapport between class members (3.9%).

End-of-semester results were similar to those obtained at the start of the semester. Once again, MCP students reported that what they liked most was the classwork itself (30.8%) and their teacher and the way they taught the class (26.6%). Student responses included "I like the work the most" and

I like [the teacher's] overall attitude with class. She's always in a good mood and happy to teach us. She is honest with us and doesn't lie or hide things. She says

things how they are. I would say I learned more Spanish in this class this year than I have in any other Spanish class.

The next most common response was that students indicated that they liked the engaging/interesting/challenging aspects of the class (16.4%), while others (10.7%) liked the self-paced/independent learning style. Smaller numbers of students identified other aspects of the class they liked, which included:

- Coursework that was easy to understand
- The classroom environment, both for its “energy” and for fostering communication between students
- Opportunities for discussion and working together as teams

Likewise, at the end of the semester, comparison students reported similar responses to those given at the start of the semester when asked what they liked most about their class. Responses showed that over a quarter (28.1%) liked their classwork most, while a comparable amount (26.8%) replied that they liked their teacher and their teaching style the most. A student remarked,

The thing I like the most about this class is the fact that we take time each day to actually go over what it is we'll begin doing on our own, the teacher also makes sure to check in on every one of us individually to make sure we understand what it is we are doing.

A small proportion (9.8%) of students liked that the classwork was easy to understand, with one response reading,

The assignments aren't designed to be stressful. They're easy to comprehend and are actually doable within the allotted time frame of the class which motivates me to keep doing work when I know I can actually get it done.

Small numbers of students indicated that they liked the classroom environment, the opportunities for discussions and teamwork, and the fact that there was not a lot of work/homework associated with the class. In this group of comparison students, no students responded “I don’t know/unsure” to this question.

What students would change. The second open-ended question posed to students on the survey at the start of the semester asked what they would change about the class. Over half of MCP students (54.8%) replied that they would not change anything. As one student remarked, “I would change nothing. I think it's perfect the way it is.” The remaining students offered a variety of suggestions for changes they would make. The most common answer (8.8%) was to change the lesson content or topic, with some students expressing a desire for more “relevant” topics to be covered

in class. The next most frequent response was “I don’t know/Not sure” (5%). A smaller group of students (3.7%) said that they would like a “normal” classroom with more direct instruction from their teachers and more whole-group work. One student stated, “I would make it so she does more teaching and we don’t do everything by ourselves in google classroom,” and another added, “We do a lot of things by our self. I think we could work together as a class more.” Other changes that students suggested included:

- Reduce the amount of work/homework and/or the number of assessments
- Make classwork easier and provide more time for assignments to be due
- Make the class more interesting, fun, and/or engaging

At the end of the semester, two-thirds of MCP students (67.3%) replied that they would not change anything. This reflected little change from the survey responses at the start of the semester. The next most frequent response (8.7%) was to reduce the amount of work/homework and/or the number of assessments required by the class. A small number (5.1%) of students wanted to return to in-person schooling while a slightly larger group (9.1%) said they didn’t know or weren’t sure what they would change. The remaining students recommended various changes to the class, which included the following:

- Change the lesson content or activities
- Make classwork easier and provide more time for assignments to be due
- Make it possible to get more help or get help faster

Comparison students’ responses were similar to MCP students’. On the survey at the start of the semester, over half (59.7%) of comparison students replied that they would not change anything. The remaining students were fairly evenly divided across several suggested changes. The most common suggestions were to reduce the amount of work/homework and/or the number of assessments (6.5%), return to in-person schooling (5.5%), and make the class more interesting/fun/challenging (3.6%). Comments from students included “I would want to learn in actual school building” and

I don't like what I'm learning about because it's never going to help me in the real world, so maybe if we learned about things that are happening right now, that would be more interesting.

Smaller groups of students or individual students made suggestions for change that included:

- Change the lesson content, activities, or assessments
- Make classwork easier and provide more time for assignments to be due

- Make the class more interesting, fun, and/or engaging

At the end of the semester, nearly two-thirds (65.9%) of comparison students replied that they would not change anything, a slight decrease from the result at the start of the semester. Reducing the amount of work/homework and/or assignments required remained one of the leading suggestions for change (7.3%). Equal numbers of students recommended a return to in-person schooling (3.7%), more student discussions and student interaction (3.7%), and changes to the classroom environment (3.7%). A response of “I don’t know/unsure” was given by a small number (2.4%) of students from this group. The remaining suggestions were made by pairs of students or individuals and included changing lesson content or activities, changing the time that the class met, and making the class more engaging or challenging overall.

Discussion

As with the Year 2 evaluation of the MCP, our Year 3 evaluation similarly showed positive evidence for the program, based on teacher and student survey and interview responses. According to survey data, the MCP showed benefits for teachers at all school levels and across different academic subjects. These patterns are similar to those observed in the first year of evaluation, which suggests stability in the MCP effects, especially as the Year 3 evaluation was conducted during the COVID-19 pandemic.

Similarly to observed patterns in Year 2, the MCP appeared to have the greatest impact on teachers’ ability to differentiate instruction. Teacher perceptions in relation to classroom practices, student skills development, and beliefs about teaching were generally very similar for MCP and comparison teachers, with MCP teachers generally expressing slightly more positive perceptions, though not significantly so. In terms of growth from the beginning to the middle of the school year, MCP teachers demonstrated the largest gains in their perceptions of differentiating instruction, engaging in effective classroom practices, and experiencing positive beliefs about teaching.

Open-ended teacher survey responses appeared to support the trends found in the quantitative survey data. MCP teachers reported stronger relationships with their students as well as more opportunities for deeper learning. Teachers reported that students developed leadership and communication skills, and these improvements in behavior resulted in higher-quality classroom culture and climate. The additional planning involved was identified by teachers as a heavy lift, but most teachers considered the benefits to be worth the extra effort. Teachers were generally happy with MCP support, and teachers with mentor support indicated more confidence in implementing Modern Classrooms. While MCP teachers considered the training to be high quality, teachers reported wanting more professional development and connection with other MCP teachers, examples, and models.

In terms of student impacts, the MCP appeared to have the most substantial positive impacts on student perceptions of engagement, with MCP students consistently rating themselves as more engaged than did comparison students. Non-DCPS students also rated their relationships with their teachers more positively than did comparison students. Positive program impacts were also observed in terms of students' perceptions of academic self-efficacy and skills development, as well as students' relationships with their teachers. Across time, students' perceptions of their relationships with their teachers and their engagement with school showed the most consistent gains.

Open-ended student survey responses showed similar patterns of student perceptions as were found in the quantitative survey responses. MCP students across all districts most commonly cited classwork and the way their teacher taught the class as the things they liked the most about class. Students also reported liking how they found class time to be interesting and engaging. Similar, though slightly smaller percentages of MCP students reported classwork and the way their teacher taught the class as the things they liked the most, although these were also the most common responses for comparison students, as well.

Overall, the results demonstrate the potential of MCP to strengthen teachers' skills at differentiating instruction, developing positive relationships with students, and improving the quality of instruction in diverse classrooms. Although the comparison and MCP teacher and student samples appeared generally similar in characteristics in this study, given the pure voluntary conditions for the comparison samples, some small biases in results (likely affecting the latter's perceptions more positively than negatively) could have occurred. Future research in which sampling is systematically conducted to ensure group equivalence is encouraged. Examining MCP effects on student achievement in a future treatment-comparison group study might also be considered.

Appendix A: Modern Classrooms Teacher Survey, Mid-Year

8/6/2021

The Modern Classrooms Project -- Teacher Survey

The Modern Classrooms Project -- Teacher Survey

Thank you for taking the time to complete this survey thoughtfully and honestly. Collecting this data is extremely important for us as we seek to track our progress and find areas for improvement.

Your participation in this survey is voluntary. Your responses may be used for research and marketing purposes; neither your name nor your individual responses will be used without your consent.

If you have questions about this survey or the ways in which responses may be used, please e-mail annie.cole@modernclassrooms.org

Johns Hopkins University Homewood Institutional Review Board (HIRB)
Research Participant Informed Consent Form

Study Title: The Modern Classrooms Project -- Proposed Program Effectiveness Study, School Year 2020-2021

Application No.: HIRB00011644

Sponsor/Supporter/Funded By: The Modern Classrooms Project

Principal Investigator: Dr. Jennifer Morrison, Center for Research and Reform in Education, Johns Hopkins University, JRMorrison@jhu.edu

You are being asked to join a research study. Participation in this study is voluntary. Even if you decide to join now, you can change your mind later.

1. Research Summary (Key Information): The information in this section is intended to be an introduction to the study only. Complete details of the study are listed in the sections below. You can ask questions about the study now and at any time in the future.

The proposed study will investigate differences in teacher and student perceptions, attitudes, and beliefs for Modern Classrooms (MC) versus Comparison (C) participants through online surveys. A small number of teachers will also be asked to participate in a telephone interview. This research is being conducted during the 2020-2021 school year. Teachers will be asked to complete a 10-minute online teacher survey on 2-3 occasions and to administer a 10-minute online student survey to their students on 2-3 occasions throughout the school year. There are no costs or direct benefits to you for participating in this study.

2 Why is this research being done?

https://docs.google.com/forms/d/1sCtOJihbekWjuQPhy-OPbsrzO9ukRD_St3aLUNhKQg/edit

1/15

8/6/2021

The Modern Classrooms Project – Teacher Survey

2. Why is this research being done?

This research is being done to determine differences in teacher and student perceptions, attitudes, and beliefs for MC versus C participants. Teachers and students from schools implementing MC are being asked to participate.

3. What will happen if you join this study?

If you agree to be in this study, we will ask you to do the following things:

- complete a 10-minute online teacher survey on 2-3 occasions during the 2020-2021 school year
- administer a 10-minute online student survey to your students on 2-3 occasions during the school year
- a small sample of teachers will be invited to complete a 30-minute telephone interview with a member of the research team. If you decide to participate in an interview you will be provided with additional information on this and you will be asked to provide a separate consent for that activity.

How long will you be in the study?

You will be in this study for the 2020-2021 school year.

4. What are the risks or discomforts of the study?

You may get tired or bored when we are asking you questions or you are completing questionnaires. You do not have to answer any question you do not want to answer. The risks associated with participation in this study are no greater than those encountered in daily life.

5. Are there benefits to being in the study?

There is no direct benefit to you from being in this study. This study will evaluate the effects of a program that is believed to increase student achievement in classes taught by Modern Classrooms (MC) by incorporating blended learning, self-paced, and mastery-based principles into instruction. This study may benefit society if the results lead to a better understanding of how to best use this program across large schools, as well as uncovering implementation practices that facilitate program use and effects.

6. What are your options if you do not want to be in the study?

Your participation in this study is entirely voluntary. You choose whether to participate.

If you decide not to participate, there are no penalties, and you will not lose any benefits to which you would otherwise be entitled.

7. Will you be paid if you join this study?

Participating teachers will be provided with a \$20 gift card for completing each teacher survey and \$40 for each administration of the student survey.

What should you do if you have questions about the study?

Contact the principal investigator, Jennifer Morrison at JRMorrison@jhu.edu. If you cannot reach the principal investigator or wish to talk to someone else, call the IRB office at 410-516-5680. You can ask questions about this research study now or at any time during the study. If you have questions about your rights as a research participant or feel that you have not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.

https://docs.google.com/forms/d/1sC10LjhbekWjuQPhy-OPbsrzO9ukRD_St3aLUNhKQg/edit

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The Modern Classrooms Project – Teacher Survey

By completing this survey, you express that you understand the information given to you in this form, you accept the provisions in the form, and you agree to join the study. You will not give up any legal rights by completing this survey.

* Required

1. What is your first name? *

2. What is your last name? *

3. What is your email address? *

4. What is your age? *

5. What is your gender? *

Mark only one oval.

☐ Female

☐ Male

☐ Prefer not to say

☐ Other:

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The Modern Classrooms Project -- Teacher Survey

6. What is your race? *

Check all that apply.☐ American Indian / Alaska Native / Native Hawaiian☐ Asian / Asian-American☐ Black / African-American☐ Hispanic / Latino☐ White☐ Prefer not to sayOther: ☐ _____

7. For how many years have you been a classroom teacher? Include the year that you're currently completing. *

8. For how many years have you been a classroom teacher at your current school? Include the year that you're currently completing. *

9. What is the highest degree or level of education you've attained? *

Mark only one oval.☐ Bachelor's degree☐ Master's degree in teaching☐ Master's degree in content area☐ Other: _____

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The Modern Classrooms Project – Teacher Survey

10. How did you earn your teaching certification? *

Mark only one oval.

- ☐ Traditional teacher preparation program (university-based)
- ☐ Alternative certification program (TFA, TNTP, etc.)
- ☐ Other: _____

11. Please enter your school e-mail address below. *

Please answer the questions below as they relate to the classes you currently teach.

Classroom Practices

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The Modern Classrooms Project – Teacher Survey

12. In my current classes, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I use technology effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use my time effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can effectively manage student behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan effective learning experiences for my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provide students with adequate time to revise their work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find class time to be stressful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Differentiation

8/6/2021

The Modern Classrooms Project -- Teacher Survey

13. In my current classes, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I understand what each of my students has and has not mastered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I am able to effectively serve students at all levels of understanding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to work closely with each of my students during class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use data to provide effective targeted supports to students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily help students who have missed class to catch up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Supporting Special Populations

8/6/2021

The Modern Classrooms Project – Teacher Survey

14. I am confident I can support the needs of students with unique barriers to learning, including: *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Students who have experienced trauma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students who are chronically absent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students with special needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students who are English Language Learners (ELL).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Skill Development

15. In my current classes, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I teach my students academic skills in addition to content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help my students reflect on their strengths and weaknesses as learners.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have good personal relationships with my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help my students develop better relationships with their classmates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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The Modern Classrooms Project – Teacher Survey

Beliefs about Teaching**16. In my current classes, ****Mark only one oval per row.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I know I am preparing my students for the next grade level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I am preparing my students for the real world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am growing and improving as a professional.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to continue teaching for many more years.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I am doing the best I can.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teaching During COVID-19

8/6/2021

The Modern Classrooms Project – Teacher Survey

17. In my current classes, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I empower students' families to help their children learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I communicate student growth and progress to students' families.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can effectively teach students remotely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily transition between in-person and remote instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I support my students in learning independently at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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The Modern Classrooms Project -- Teacher Survey

18. As a result of my experience with Modern Classrooms, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I enjoy teaching more.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I go home happier at the end of each day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am less tired at the end of each day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find teaching more sustainable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more likely to continue teaching as a career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am even more proud to be a teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more optimistic about the future of education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I am part of a movement towards better education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am unlikely to go back to my old way of teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will continue to adopt Modern Classroom practices for the rest of my career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

MCP Training and Instruction

19. In which (if any) of your classes do you use the MCP approach? *

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The Modern Classrooms Project – Teacher Survey

20. In what ways has Modern Classrooms training changed the instruction you provide your students? *

21. In what ways do you believe Modern Classrooms instruction has impacted your students' growth and learning outcomes? *

22. In what ways has Modern Classrooms training affected your relationships with your students? *

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The Modern Classrooms Project -- Teacher Survey

23. In what ways has Modern Classrooms training affected your attitudes towards teaching as a career? *

Lesson Planning and Preparation

24. On average, how many minutes does it take you to plan a lesson and prepare that lesson's materials? *

25. On average, how many lessons beyond the current lesson do you typically have ready? *

For example, "I usually have my next 2 lessons fully ready to go," or "I do not generally plan any lessons ahead of the current one."

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The Modern Classrooms Project -- Teacher Survey

26. In general, what is the process you use to plan your lessons? *

27. If you have any other comments, please leave them here.

28. May we share your written responses to the questions above for promotional and research purposes? *

Mark only one oval.

- ☐ Yes, and you can include my teaching position (i.e. 7th grade math teacher) and full name.
- ☐ Yes, and you can include my position, but not my name.
- ☐ Yes, but not my position or name.
- ☐ Please do not share my written responses.
- ☐ Other: _____

Thank you - we appreciate you!

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Appendix B: Modern Classrooms Student Survey, Mid-Year

8/6/2021

The Modern Classrooms Project -- Student Survey

The Modern Classrooms Project -- Student Survey

JOHNS HOPKINS UNIVERSITY: Institutional Review Board Electronic Assent Procedure

Purpose: We are from Johns Hopkins University Center for Research and Reform in Education (CRRE) and we are asking for your help evaluating The Modern Classrooms Project currently being implemented in your school. We need your help to understand how well the program is working and how we might improve it.

Procedure: We will ask several questions about your experiences with The Modern Classrooms Project at your school. The survey will take about 15 minutes.

Voluntary Participation: You do not have to participate in this study if you don't want to. If you need to stop at any time, that's okay. If you decide not to participate, there are no penalties.

Confidentiality: Any part of the study records that identify you will be kept confidential. The only people who will see or listen to your responses are members of the research team. No one at your school will know how you responded or what you said here today.

Risks and Benefits: There are no known risks to participating in this study. There is no monetary or gift compensation for participating. Your help today will help your school improve the program for you and for other students.

Questions: If you have any questions about this study, please contact Dr. Jennifer Morrison, Principal Investigator (JRMorrison@jhu.edu). If you have any questions about your rights as a research participant or concerns about the conduct of this study, please contact the Johns Hopkins University Homewood Institutional Review Board at (410) 516-6580.

* Required

1. Please enter your full first name here. *

2. Please enter your last name here. *

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The Modern Classrooms Project -- Student Survey

3. What is the LAST NAME of the teacher who has asked you to take this survey? *

You can type the first letter to help find the name. If your teacher's name is not on the list, select "Other."

Mark only one oval.

- ☐ Allen
- ☐ Applegate
- ☐ Ballard
- ☐ Bannister
- ☐ Barsi
- ☐ Bartlett
- ☐ Betz
- ☐ Binsner
- ☐ Blackwood
- ☐ Blood
- ☐ Boudreaux
- ☐ Boutilier
- ☐ Bradley
- ☐ Brodfuehrer
- ☐ Browning
- ☐ Burns
- ☐ Carr
- ☐ Carr
- ☐ Cerrone
- ☐ Clippard
- ☐ Cook
- ☐ Culp
- ☐ Cunha
- ☐ Davis
- ☐ Delmont
- ☐ DeMartino
- ☐ Diamond
- ☐ Disla
- ☐ Doherty

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The Modern Classrooms Project -- Student Survey

- ☐ Donovan
- ☐ Dubel
- ☐ Duggan
- ☐ Elder
- ☐ Ellis
- ☐ Falgiano
- ☐ Fischer
- ☐ Flarend
- ☐ Fleming
- ☐ Fletcher
- ☐ Frank
- ☐ Gallagher
- ☐ Gates
- ☐ Gath
- ☐ Glickman
- ☐ Goldson
- ☐ Gonzalez
- ☐ Graziani
- ☐ Grogan
- ☐ Gunio
- ☐ Harrison
- ☐ Heater
- ☐ Holloway
- ☐ Holmes
- ☐ Hughes
- ☐ Idland
- ☐ Jackson (Julius)
- ☐ Jackson (Tinika)
- ☐ James
- ☐ Jamison
- ☐ Juron
- ☐ KoonceGaines
- ☐ Liehler

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The Modern Classrooms Project -- Student Survey

- ☐ Longo
- ☐ Martin
- ☐ Mazzi
- ☐ McCammon
- ☐ McNaul
- ☐ Menard
- ☐ Mentzer
- ☐ Miller
- ☐ Mitchell
- ☐ Moore
- ☐ Muskett
- ☐ Nussbaum
- ☐ O'Shei
- ☐ Other
- ☐ Ott
- ☐ Ouimet
- ☐ Paluch
- ☐ Parezo
- ☐ Rice
- ☐ Rose
- ☐ Ross
- ☐ Schick
- ☐ Sedutto
- ☐ Sevel
- ☐ Shimel
- ☐ Sholtas
- ☐ Sienkiewicz
- ☐ Simoncelli
- ☐ Smith
- ☐ Steinbach
- ☐ Stinson
- ☐ Stoklosa
- ☐ Szezerhanski

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The Modern Classrooms Project -- Student Survey

- ☐ Thompson
- ☐ Trexler
- ☐ Tyson
- ☐ Walker
- ☐ Weech
- ☐ White
- ☐ Williamson
- ☐ Yearick
- ☐ Yeboah
- ☐ Zawada
- ☐ Zielinski

4. What is your student ID number? Leave this blank if you don't have one.

5. Do you agree to participate in this survey? *

Mark only one oval.

- ☐ Yes, I agree to take the survey.
- ☐ No, I do not want to take this survey.

Survey Questions

Please answer all of the questions below honestly. We appreciate your time!

6. What is your gender? *

Mark only one oval.

- ☐ Female
- ☐ Male
- ☐ Prefer not to say

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The Modern Classrooms Project -- Student Survey

7. What is your race? *

Check all that apply.

- ☐ Asian / Asian-American
☐ Black / African-American
☐ Hispanic / Latino
☐ White
☐ Prefer not to say

Other: ☐ _____

8. What grade are you in? *

Mark only one oval.

- ☐ 5th
☐ 6th
☐ 7th
☐ 8th
☐ 9th
☐ 10th
☐ 11th
☐ 12th
☐ Other: _____

9. If you entered "Other," because your teacher's name was not on the list, please type your teacher's name below.

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The Modern Classrooms Project – Student Survey

10. Which class are you taking this survey for? *

Mark only one oval.

- ☐ Arts
☐ ELA
☐ Math
☐ Science
☐ Social Studies
☐ Foreign Language
☐ Other: _____

Engagement

11. In this class, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I use class time effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I behave well during class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always have something challenging to do in class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am learning things that are relevant to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I care about what I am learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Skill Development
<https://docs.google.com/forms/d/1hAwXHUCg9IVjRThUKyVvrd4zkB94N4GJuAw7t5bg/edit>

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The Modern Classrooms Project -- Student Survey

12. In this class, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am learning how to use technology.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am developing good study habits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can teach myself new academic content and skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can catch up if I miss class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can complete challenging assignments without giving up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learn from my peers during class time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Opinions & Beliefs

13. In this class, *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am responsible for my own learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really understand what I'm learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am capable of learning anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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8/10

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The Modern Classrooms Project -- Student Survey

My Teacher**14. In this class, ****Mark only one oval per row.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My teacher knows my strengths and weaknesses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teacher cares about me as an individual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teacher gives me personal support and encouragement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teacher challenges me to learn as much as I can.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a good personal relationship with my teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Final Thoughts**15. Overall, ****Mark only one oval per row.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I like the way my teacher teaches this class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to take more classes like this one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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The Modern Classrooms Project – Student Survey

16. What do you like most about this class? *

17. What would you change about this class? *

18. If you have any other comments, please leave them here.

Thank you for your time!

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Appendix C: Teacher Interview Protocol

Background

1. Please tell me a little bit about your background. How long have you been teaching, and at which grades/subject areas?

Modern Classrooms Training (PD)

2. Did you feel prepared to implement Modern Classrooms effectively when you started? Please explain.
3. Across the year, what supports were most helpful to you in implementing your Modern Classroom?
4. What professional development, if any, do you feel you are still in need of to better use Modern Classrooms with your students?

Modern Classrooms Implementation

5. What does implementation of Modern Classrooms look like in your classroom?
6. How, if at all, has implementation changed across the school year?
7. What has been easy about implementing the MCP approach?
8. What has been challenging?

Teacher Impact

9. How has Modern Classrooms affected your ability to deliver academic content?
10. What impact, if any, has Modern Classrooms had on your relationships with your students?
11. To what extent has Modern Classrooms affected your attitudes towards teaching as a career?

Student Impact

12. How, if at all, do you think the MCP approach has impacted student learning so far this year?
13. In terms of social-emotional growth, to what extent has MCP impacted students?

14. Do you believe the Modern Classrooms approach meets the needs of most of your students? Why or why not?

Overall Perceptions

15. What are the strengths of the Modern Classrooms approach?
16. What suggestions do you have for improving the program?
17. Would you recommend Modern Classrooms to other teachers? Why or why not?

Appendix D: Start of Semester Comparisons, DCPS Students

Table C1

Skills development, MCP and comparison students, start of semester

Item	MCP (<i>n</i> = 451)	Comparison (<i>n</i> = 96)
I am learning how to use technology	3.48*	3.23
I am developing good study habits	3.77	3.75
I can teach myself new academic content and skills	3.80	3.81
I can catch up if I miss class	4.09	4.19
I can complete challenging assignments without giving up	3.81	3.94
I learn from my peers during class time	3.64	3.54

Note: * $p < .05$

Table C2

Self-efficacy, MCP and comparison students, start of semester

Item	MCP (<i>n</i> = 451)	Comparison (<i>n</i> = 96)
I am responsible for my own learning	4.12	4.04
I really understand what I'm learning	3.81	3.96
I enjoy learning	3.74	3.69
I am capable of learning anything	4.07	4.00

Table C3

Teacher-student relationships, MCP and comparison students, start of semester

Item	MCP (<i>n</i> = 451)	Comparison (<i>n</i> = 96)
My teacher knows my strengths and weaknesses	3.16	3.29
My teacher cares about me as an individual	3.95	4.00
My teacher gives me personal support and encouragement	3.77	3.88
My teacher challenges me to learn as much as I can	3.95	4.00
I have a good personal relationship with my teacher	3.34	3.41

Table C4

Engagement, MCP and comparison students, start of semester

Item	MCP (<i>n</i> = 451)	Comparison (<i>n</i> = 96)
I use class time effectively	4.02	4.08
I behave well during class	4.49	4.57
I always have something challenging to do in class	3.82	3.76
I am learning things that are relevant to me	3.88	3.84
I care about what I am learning	4.10	4.02

Table C5

Overall course ratings, MCP and comparison students, start of semester

Item	MCP (<i>n</i> = 451)	Comparison (<i>n</i> = 96)
I like the way my teacher teaches this class	4.15	4.16
I would like to take more classes like this one	3.71	3.68

Appendix E: Questionnaire Frequencies and Descriptive Statistics

Table 1

MCP and Comparison teachers, mid-year

Item	MCP (<i>n</i> = 68)		Comparison (<i>n</i> = 27)	
	Mean (SD)	% Agree	Mean (SD)	% Agree
Differentiating Instruction				
I understand what each of my students has and has not mastered	4.37 (0.57)	95.5*	4.00 (0.78)	85.2
I feel I am able to effectively serve students at all levels of understanding	4.30 (0.52)	97.0***	3.59 (0.89)	63.1
I am able to work closely with each of my students during class	3.93 (0.94)	73.1***	2.89 (1.05)	29.6
I use data to provide effective targeted supports to students	4.24 (0.76)	86.6	3.96 (0.52)	85.2
I can easily help students who have missed class to catch up	4.39 (0.63)	92.5***	3.52 (0.89)	63.0
Classroom Practices				
I use my technology effectively	4.57 (0.50)	100.0	4.41 (0.57)	96.3
I use my time effectively	4.54 (0.56)	97.0	4.33 (0.55)	96.3
I can effectively manage student behavior	4.58 (0.50)	100.0	4.37 (0.74)	92.6
I plan effective learning experiences for my students	4.57 (0.50)	100.0	4.44 (0.51)	100.0
I provide students with adequate time to revise their work	4.51 (0.66)	91.0**	4.01 (0.76)	81.5
I find class time to be stressful	2.28 (1.19)	19.4	2.19 (1.04)	10.7
Skills Development				
I teach my students academic skills in addition to content	4.48 (0.59)	95.5	4.26 (0.71)	92.4

I help my students reflect on their strengths and weaknesses as learners	4.27 (0.73)	86.6*	4.07 (0.73)	75.2
I have good personal relationships with my students	4.60 (0.58)	95.5	4.33 (0.78)	89.9
I help my students develop better relationships with their classmates	4.15 (0.89)	76.2	3.78 (0.85)	74.2
Teaching Beliefs				
I know I am preparing my students for the next grade level	4.52 (0.53)	98.5	4.30 (0.72)	92.6
I know I am preparing my students for the real world	4.61 (0.52)	98.5*	4.26 (0.98)	88.9
I feel that I am growing and improving as a professional	4.66 (0.62)	95.5*	4.22 (0.89)	85.2
I enjoy teaching	4.61 (0.70)	91.0	4.59 (0.75)	85.2
I intend to continue teaching for many more years	4.48 (0.77)	89.6*	4.37 (0.97)	75.2
I know I am doing the best I can	4.63 (0.55)	97.0	4.41 (0.69)	88.9
Supporting Special Populations				
Supporting students who have experienced trauma	3.78 (0.81)	62.7	3.78 (0.75)	66.7
Supporting students who are chronically absent	3.70 (0.87)	67.2**	3.15 (0.95)	44.4
Supporting students with special needs	4.30 (0.58)	97.0*	4.07 (0.62)	85.2
Supporting ELLs	3.76 (0.76)	62.7	3.70 (0.82)	63.0
Perceptions of Remote Learning				
I empower students' families to help their children learn	4.00 (0.70)	82.1	3.74 (0.71)	66.7
I communicate student growth and progress to students' families	4.15 (0.74)	85.1	4.00 (0.68)	85.2

I can effectively teach students remotely	4.39 (0.55)	97.0**	3.81 (0.79)	81.5
I can easily transition between in-person and remote instruction	4.37 (0.78)	88.1***	3.52 (0.98)	55.6
I support my students in learning independently at home	4.48 (0.53)	98.5**	3.96 (0.71)	81.5

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 2

MCP teachers over time (n = 50)

Item	BOY		Mid-year	
Differentiating Instruction	Mean (SD)	% Agree	Mean (SD)	% Agree
I understand what each of my students has and has not mastered	3.70 (0.81)	68.0	4.34 (0.56)	96.0***
I feel I am able to effectively serve students at all levels of understanding	3.50 (0.93)	56.0	4.28 (0.54)	96.0***
I am able to work closely with each of my students during class	2.88 (0.98)	30.0	3.90 (0.93)	72.0***
I use data to provide effective targeted supports to students	3.62 (0.78)	56.0	4.14 (0.81)	82.0***
I can easily help students who have missed class to catch up	3.22 (1.06)	46.0	4.38 (0.67)	90.0***
Classroom Practices				
I use my technology effectively	4.00 (0.88)	82.0	4.56 (0.50)	100.0**
I use my time effectively	4.04 (0.81)	78.0	4.50 (0.58)	96.0**
I can effectively manage student behavior	4.32 (0.59)	94.0	4.60 (0.49)	100.0*
I plan effective learning experiences for my students	4.18 (0.52)	94.0	4.60 (0.49)	100.0*
I provide students with adequate time to revise their work	3.82 (0.98)	70.0	4.46 (0.68)	90.0**

I find class time to be stressful	2.32 (0.84)	24.0	2.30 (1.20)	20.0
Skills Development				
I teach my students academic skills in addition to content	4.10 (0.71)	88.0	4.46 (0.61)	94.0*
I help my students reflect on their strengths and weaknesses as learners	3.46 (0.97)	52.0	4.26 (0.75)	86.0***
I have good personal relationships with my students	4.54 (0.54)	98.0	4.66 (0.52)	98.0
I help my students develop better relationships with their classmates	4.08 (0.75)	80.0	4.26 (0.85)	82.0
Teaching Beliefs				
I know I am preparing my students for the next grade level	4.30 (0.61)	92.0	4.45 (0.54)	98.0*
I know I am preparing my students for the real world	4.28 (0.73)	92.0	4.66 (0.52)	98.0*
I feel that I am growing and improving as a professional	4.34 (0.77)	90.0	4.74 (0.49)	98.0*
I enjoy teaching	4.64 (0.56)	96.0	4.58 (0.73)	90.0
I intend to continue teaching for many more years	4.50 (0.65)	92.0	4.48 (0.74)	90.0
I know I am doing the best I can	4.28 (0.81)	86.0	4.68 (0.51)	98.0**

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3
Non-DCPS MCP and Comparison students, mid-year

Item	MCP ($n = 1281$)		Comparison ($n = 213$)	
Skills Development	Mean (SD)	% Agree	Mean (SD)	% Agree
I am learning how to use technology	3.71 (1.02)	61.2*	3.32 (1.21)	48.3
I am developing good study habits	3.82 (0.93)	67.6	3.89 (0.89)	71.4

I can teach myself new academic content and skills	3.93 (0.92)	74.1*	3.74 (0.96)	66.2
I can catch up if I miss class	4.28(0.84)	84.1*	4.08 (0.87)	77.9
I can complete challenging assignments without giving up	4.05 (0.91)	78.4	3.96 (1.00)	70.9
I learn from my peers during class time	3.54 (1.10)	54.6	3.43 (1.02)	47.0
Self-Efficacy				
I am responsible for my own learning	4.07 (0.89)	77.7	4.08 (0.87)	77.9
I really understand what I'm learning	3.98 (0.88)	75.3	4.12 (0.79)	79.8*
I enjoy learning	3.75 (1.07)	62.3	3.77 (0.99)	63.9
I am capable of learning anything	3.95 (0.96)	72.0	3.89 (0.99)	65.7
Teacher-Student Relationships				
My teacher knows my strengths and weaknesses	3.80 (0.93)	66.6**	3.48 (0.93)	51.1
My teacher cares about me as an individual	4.22 (0.82)	83.6**	4.03 (0.82)	78.8
My teacher gives me personal support and encouragement	4.11 (0.89)	78.3**	3.85 (0.90)	66.2
My teacher challenges me to learn as much as I can	4.20 (0.82)	83.6	4.09 (0.79)	81.7
I have a good personal relationship with my teacher	3.80 (0.98)	63.4*	3.55 (0.95)	47.8
Engagement				
I use class time effectively	4.15 (0.81)	71.9	4.00 (0.84)	77.5
I behave well during class	4.51 (0.67)	94.3	4.38 (0.77)	90.1
I always have something challenging to do in class	3.95 (0.87)	70.8**	3.68 (0.91)	57.2
I am learning things that are relevant to me	3.84 (1.00)	68.2	3.76 (0.96)	66.2
I care about what I am learning	3.93 (1.00)	70.5	4.05 (0.87)	77.5
Course Rating				

I like the way my teacher teaches this class	4.28 (0.86)	84.7	4.36 (0.82)	85.0
I would like to take more classes like this one	3.79 (1.09)	64.4	3.83 (1.09)	61.5

Note: * $p < .05$; ** $p < .01$

Table 4

Non-DCPS MCP Students over time (n = 711)

Item	BOY		Mid-year	
Skills Development	Mean (SD)	% Agree	Mean (SD)	% Agree
I am learning how to use technology	4.22(0.81)	84.0**	3.76 (0.99)	63.2
I am developing good study habits	3.86 (0.91)	68.5	3.86 (0.94)	69.5
I can teach myself new academic content and skills	3.85 (0.91)	68.9	3.96 (0.91)	75.7*
I can catch up if I miss class	4.22 (0.82)	83.8	4.33 (0.82)	87.1
I can complete challenging assignments without giving up	4.09 (0.84)	77.6	4.09 (0.88)	80.0
I learn from my peers during class time	3.82 (0.90)	67.0**	3.58 (1.11)	55.3
Self-Efficacy				
I am responsible for my own learning	4.03 (0.89)	75.4	4.10 (0.86)	79.1*
I really understand what I'm learning	3.97 (0.80)	74.0	4.00 (0.89)	76.4
I enjoy learning	3.73 (0.97)	61.3	3.79 (1.05)	64.3
I am capable of learning anything	3.95 (0.87)	62.2	4.00 (0.94)	74.0
Teacher-Student Relationships				
My teacher knows my strengths and weaknesses	3.91 (0.89)	68.6	3.86 (0.90)	69.2
My teacher cares about me as an individual	4.17 (0.83)	81.3	4.26 (0.82)	85.0*
My teacher gives me personal support and encouragement	4.08 (0.83)	77.5	4.15 (0.91)	79.3

My teacher challenges me to learn as much as I can	4.20 (0.81)	83.3	4.22 (0.82)	84.5
I have a good personal relationship with my teacher	3.97 (0.94)	70.5*	3.88 (0.96)	66.1
Engagement				
I use class time effectively	4.24 (0.73)	87.3	4.18 (0.80)	83.5
I behave well during class	4.46 (0.65)	91.8	4.54 (0.66)	95.2*
I always have something challenging to do in class	3.86 (0.84)	67.7	3.99 (0.86)	73.0*
I am learning things that are relevant to me	3.85 (0.89)	69.0	3.86 (1.02)	68.9
I care about what I am learning	4.05 (0.86)	75.5*	3.94 (1.02)	69.6

Note: * $p < .05$; ** $p < .01$

Table 5

DCPS MCP and Comparison students, end of semester

Item	MCP ($n = 312$)		Comparison ($n = 82$)	
	Mean (SD)	% Agree	Mean (SD)	% Agree
Skills Development				
I am learning how to use technology	3.44 (0.98)	48.7	3.38 (1.04)	50.5
I am developing good study habits	3.77 (0.86)	64.3	3.64 (0.86)	54.3
I can teach myself new academic content and skills	3.86 (0.79)	69.0*	3.59 (0.89)	53.0
I can catch up if I miss class	4.24 (0.80)	84.4	4.11 (0.79)	81.4
I can complete challenging assignments without giving up	3.99 (0.90)	72.8	3.80 (0.80)	64.2
I learn from my peers during class time	3.69 (0.98)	61.3**	3.27 (1.00)	40.7
Self-Efficacy				
I am responsible for my own learning	4.12 (0.84)	80.0	4.05 (0.69)	81.5
I really understand what I'm learning	4.00 (0.79)	77.5	3.96 (0.77)	74.1
I enjoy learning	3.83 (0.96)	64.0*	3.60 (0.90)	56.8
I am capable of learning anything	4.14 (0.83)	78.4*	3.96 (0.77)	71.6

Teacher-Student Relationships				
My teacher knows my strengths and weaknesses	3.60 (0.89)	51.9	3.65 (0.98)	51.9
My teacher cares about me as an individual	4.25 (0.70)	85.6	4.17 (0.75)	79.0
My teacher gives me personal support and encouragement	4.16 (0.75)	83.0	4.06 (0.83)	74.1
My teacher challenges me to learn as much as I can	4.25 (0.65)	88.9	4.20 (0.73)	81.5
I have a good personal relationship with my teacher	3.74 (0.91)	58.5*	3.56 (0.89)	46.9
Engagement				
I use class time effectively	3.93 (0.84)	72.9	3.75 (0.78)	59.2
I behave well during class	4.50 (0.69)	93.1	4.60 (0.52)	98.7
I always have something challenging to do in class	4.07 (0.84)	76.8***	3.58 (0.99)	56.7
I am learning things that are relevant to me	4.04 (0.86)	76.2**	3.72 (0.85)	62.9
I care about what I am learning	4.12 (0.88)	78.1*	3.88 (0.90)	67.9
Course Rating				
I like the way my teacher teaches this class	4.42 (0.70)	88.9*	4.01 (0.77)	82.5
I would like to take more classes like this one	4.02 (0.94)	71.3***	3.47 (0.98)	45.6

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 6
DCPS MCP Students over time (n = 192)

Item	Mid-year		EOY	
Skills Development	Mean (SD)	% Agree	Mean (SD)	% Agree
I am learning how to use technology	3.54 (1.02)	51.5	3.44 (1.03)	47.4
I am developing good study habits	3.88 (0.80)	70.3	3.88 (0.85)	69.8
I can teach myself new academic content and skills	3.88 (0.84)	71.9	3.93 (0.79)	71.3

I can catch up if I miss class	4.17 (0.87)	73.9	4.30 (0.79)	85.9*
I can complete challenging assignments without giving up	3.91 (0.87)	72.4	4.07 (0.90)	77.1
I learn from my peers during class time	3.80 (0.86)	65.6	3.76 (1.00)	64.6
Self-Efficacy				
I am responsible for my own learning	4.20 (0.82)	83.3	4.20 (0.79)	82.8
I really understand what I'm learning	3.93 (0.73)	74.5	4.11 (0.73)	83.3**
I enjoy learning	3.83 (0.92)	62.5	3.94 (0.89)	69.3
I am capable of learning anything	4.16 (0.81)	81.3	4.20 (0.80)	82.8
Teacher-Student Relationships				
My teacher knows my strengths and weaknesses	3.27 (0.85)	33.9	3.69(0.88)	66.3***
My teacher cares about me as an individual	4.08 (0.74)	76.6	4.28 (0.72)	84.4**
My teacher gives me personal support and encouragement	3.99 (0.88)	70.8	4.18 (0.77)	81.3**
My teacher challenges me to learn as much as I can	4.03 (0.83)	73.4	4.32 (0.65)	90.1***
I have a good personal relationship with my teacher	3.49 (0.98)	47.4	3.81 (0.94)	60.9***
Engagement				
I use class time effectively	4.09 (0.74)	81.3	4.04 (0.82)	76.0
I behave well during class	4.55 (0.75)	94.8	4.56 (0.67)	95.3
I always have something challenging to do in class	3.89 (0.88)	67.2	4.16 (0.81)	80.7***
I am learning things that are relevant to me	4.03 (0.86)	74.5	4.07 (0.81)	77.6
I care about what I am learning	4.21 (0.84)	82.8	4.18 (0.87)	79.2

Note: * $p < .05$; ** $p < .01$; *** $p < .001$