Evaluation of the James Madison Legacy Project: Cohort 2 Student Knowledge

Preliminary Report

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The research team for this study is based at Georgetown University in Washington, D.C. Neither the author nor the staff have financial interests that could be affected by the findings of this study.

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EXECUTIVE SUMMARY

This study evaluates the effectiveness of the James Madison Legacy Project (JMLP) in achieving positive student knowledge outcomes as a result of teachers' participation in the professional development (PD) program. Middle and high school teachers were randomly assigned at the school level to either a traditional PD program using live scholars or a hybrid PD program that incorporated digital resources. The research employs a randomized control trial to evaluate students' acquisition of civic knowledge from teachers who received the traditional JMLP PD, hybrid JMLP PD, or did not receive the PD. The findings indicate that the effects of the interventions on student knowledge are positive and statistically significant for both middle and high school. Middle and high school students whose teachers participated in the JMLP saw greater improvement in their civic knowledge scores from pretest to posttest than did control group students. JMLP students scored significantly higher on civic knowledge tests after taking a civics class than students in the control group regardless of whether their teachers participated in the traditional PD or hybrid PD program. The differences in mean knowledge scores for students in the traditional PD and hybrid PD groups are small, which supports the case for the scalability of the JMLP PD program using scholar videos and digital resources.

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THE JAMES MADISON LEGACY PROJECT

The James Madison Legacy Project (JMLP) is a three-year nationwide initiative of the Center for Civic Education that aims to expand the availability and effectiveness of civics instruction in elementary and secondary schools by providing professional development (PD) to teachers of high need students. The JMLP seeks to increase the number of highly effective teachers through professional development based on the Center's *We the People: The Citizen and the Constitution* (WTP) curriculum. The professional development program is designed to improve teachers' civics content knowledge and develop their pedagogic skills in order to enhance students' achievement in attaining state standards in civics and government. Ultimately, the JMLP will provide PD to 2,025 teachers instructing at least 202,500 students in a minimum of 900 participating schools with significant concentrations of high need students. The Center is implementing the JMLP through its nationwide network of affiliated organizations that will support the program's expansion and sustainability. The JMLP is funded by a Supporting Effective Educator Development (SEED) grant of the U.S. Department from Education.

Teachers participating in the JMLP professional development program attend summer institutes at one of twenty-six sites where they learn about the *We the People* curriculum, are educated in subject-area content, and are instructed in effective pedagogies for presenting the curriculum to students. States with large numbers of schools, such as New York and California, constituted single-state sites. Multi-state sites were created based on geographic proximity, such as states in New England. The JMLP begins with 36 hours of PD at a multi-day summer institute and is followed by an additional sixteen hours of PD during the ensuing academic year. The follow-up PD is spread across three days, typically two in the fall and one in the spring. Locations for the in-person PD sessions include universities, facilities at historic sites, such as Mount Vernon and James Madison's Montpelier, and conference centers. Teachers also engage via the JMLP's online professional community, and they are in regular contact with the program's mentor teachers.

Over the course of three years, the JMLP has been developing and evaluating the efficacy of a scalable version of the PD program that incorporates digital resources as opposed to relying solely on face-to-face presentations by scholars. The JMLP PD covers six content units aligned with the *We the People* textbook that convey standard civics topics related to the Founding, the U.S. Constitution and the Bill of Rights, and the institutions of government. Teachers participating in Cohort 1 (2015-2016) received PD based on a traditional model that relied on face-to-face interactions with scholars who are content area specialists. The phase-in of the PD model employing digital resources occurred during Cohort 2 (2016-2017). Schools were randomly assigned to have their teachers receive either the traditional PD or a hybrid PD model where live scholars covered units one through three and scholar videos followed by discussions led by mentor teachers were used for units four through six. Cohort 3 (2017-2018) employed a full blended model which exclusively used scholar videos for all six units. Cohort 3 is still in progress.

THE STUDY

An outcome of the JMLP is to increase students' knowledge of American government and politics by improving their teachers' civics content knowledge and pedagogy. JMLP teachers instruct their students using the *We the People* curriculum. They employ active learning elements culminating in simulated congressional hearings. Teachers use program resources, such as the *We the People* textbook, lesson plans, and primary source documents, when implementing the curriculum in the classroom. This report examines student knowledge outcomes for Cohort 2 of the JMLP.

This study of student knowledge outcomes as a result of the JMLP PD program employs a multi-site, school-level randomized control trial (RCT). Coordinators in forty-two states and the District of Columbia recruited schools for the JMLP with attention to the high need criteria of being a Title 1 school, and/or having at least 30% of students who are provided with free or reduced cost lunches, students living in poverty, minority students, students performing far below grade level, English language learners, students with disabilities, students who are homeless or in foster care, students served by rural local educational agencies, disconnected or migrant youth, and incarcerated youth. (Student gender and race/ethnicity data are depicted in Table A1 in the Appendix.)

Random Sample

The random sample for the study was drawn from a computer generated, randomly ordered list of the 437 schools (613 teachers) that were recruited for Cohort 2 of the JMLP. All schools had the same chance of ending up in the intervention or control groups. Random assignment of schools occurred in March 2016, prior to the start of the summer institutes in June. Schools were randomly assigned to groups whose teachers: 1) participated in the traditional JMLP PD program; 2) participated in the JMLP hybrid PD program; and 3) did not participate in the JMLP PD program (the control group). After this initial random assignment of schools to traditional PD, hybrid PD, and control groups, 240 schools were randomly selected for the JMLP Cohort 2 research study—90 middle schools and 150 high schools. Schools from forty-two states and the District of Columbia were included in the random sample. (See Table A2 in the Appendix for a list of states where schools were assigned to the intervention and control groups for the middle and high school samples.) No schools or teachers joined the study after random assignment. Only the students of teachers who were present at the time of random assignment took the test and are included in the analytic sample.

Ninety middle schools were chosen randomly for the study across 38 states and the District of Columbia. Of the 90 middle schools selected for the study, 30 schools were randomly assigned to each of three conditions: 1) schools whose teachers received traditional PD; 2) schools whose teachers received hybrid PD; and 3) a comparison group whose teachers did not receive the JMLP PD. Middle schools assigned to the PD groups were from 30 states and the District of Columbia. Schools assigned to the middle school control group were from 20 states plus the District of Columbia. Eighty of the 90 schools remained in the student study—27 in the traditional PD group, 28 in the hybrid PD group, and 25 in the control group.

Of the 150 high schools in the study, 50 schools were randomly assigned to each of three conditions: 1) schools whose teachers received traditional PD; 2) schools whose teachers received hybrid PD; and 3) a comparison group whose teachers did not receive the JMLP PD. High schools from 41 states and the District of Columbia were assigned to the random sample. At least two schools from each of the twenty-six JMLP PD sites were in the high school study. High schools from 29 states plus the District of Columbia were assigned to the control group. A total of 141 high schools completed the study—47 in the traditional PD group, 48 in the hybrid PD group, and 46 in the control group.

Attrition

Sample attrition was analyzed at the individual student level and the teacher level. Student rosters were obtained for all participating classes for both the pretest and the posttest. The rosters were used to identify: 1) stayers, students who remained in the sample for the entirety of the study, 2) leavers, students who dropped out of the study, and 3) joiners, students who joined a class after randomization and after the study had begun. Joiners were excluded from the analysis, as "the WWC never considers joiners to pose a risk of bias when they are excluded from the analytic sample."[1]

The middle school data meet the WWC's conservative attrition standard for studies with low attrition and low expected bias. Plots of the overall and differential attrition rates for the middle school sample fall within WWC's "green region—tolerable threat of bias under both optimistic and cautious assumptions" based on Figure II.2 "Attrition and Potential Bias" in the WWC Standards Handbook, Version 4.0 (p. 11).[2] For overall attrition of 18%, WWC identifies 5.7% as the highest differential attrition rate for a sample to maintain low attrition under "cautious" assumptions.[3] Overall attrition for the entire middle school sample is 17.92%. Attrition is 18.77% for the traditional PD group, 18.95% for the hybrid PD group, and 15.98% for the control group. (See Table 1.) The differential attrition for the traditional PD and the control groups is 2.79, and differential attrition is 2.97 for the hybrid PD and the control groups. Differential attrition between the two intervention conditions is minimal at 0.18. (See Table 2.)

Table 1
Middle School Sample Attrition

	Traditional	Hybrid	Control	Entire Sample
Total	2,003	1,282	1,564	4,849
Stayers	1,627	1,039	1,314	3,980
Leavers	376	243	250	869
***Joiners**	251	185	218	654
% Attrition	18.77	18.95	15.98	17.92

*Joiners are excluded from the study

[1]What Works Clearinghouse, Standards Handbook, Version 4.0, page 23.
[2]See Figure 4: Conservative attrition standard, in What Works Clearinghouse, WWC Standards Brief, Attrition Standard. Institute of Education Sciences.
[3]What Works Clearinghouse, Standards Handbook, Version 4.0, page. 13.

Table 2
Middle School Sample Differential Attrition

	% Differential Attrition
Traditional PD/Control Group	2.79
Hybrid PD/Control Group	2.97
Traditional PD/Hybrid PD	0.18

For the high school sample, the combination of overall and differential rates of attrition achieves tolerable levels of potential bias. Plots of the overall and differential attrition rates for the traditional PD/control group and the hybrid PD/control group fall into the green region of Figure II.2—"tolerable threat of bias under both optimistic and cautious assumptions." The differential attrition between the traditional PD and hybrid PD samples is somewhat higher, and meets the liberal attrition standard,[4] falling into the yellow region of Figure II.2—"unacceptable threat of bias under cautious assumptions, but tolerable threat of bias under optimistic assumptions." For overall attrition of 22%, WWC identifies 5.2 as the highest differential attrition rate for a sample to maintain low attrition under "cautious" assumptions and 9.7 as the rate under "optimistic" assumptions.[5] The overall attrition for the entire high school sample is 21.48%. The attrition rates for the two intervention groups are 24.29% for the traditional PD sample and 18.19% for the hybrid PD sample. Control group attrition is 21.90%. (See Table 3.) The differential attrition for the traditional PD and the control group is 2.39, and is 3.71 for the hybrid PD and the control group, which both meet WWC "cautious standards." The differential attrition between the traditional and hybrid intervention groups is 6.10 which meets WWC "optimistic" standards. (See Table 4.)

Table 3
High School Sample Attrition

	Traditional	Hybrid	Control	Entire Sample
Total	2,120	2,116	2,419	6,655
Stayers	1,605	1,731	1,888	5,224
Leavers	515	385	530	1,430
***Joiners**	270	203	289	762
% Attrition	24.29	18.19	21.90	21.48

*Joiners are excluded from the study

[4]See Figure 5: Liberal attrition standard, in What Works Clearinghouse, WWC Standards Brief, Attrition Standard. Institute of Education Sciences.
[5]What Works Clearinghouse, Standards Handbook, Version 4.0, page. 13.

Table 4
High School Sample Differential Attrition

	% Differential Attrition
Traditional PD/Control Group	2.39
Hybrid PD/Control Group	3.71
Traditional PD/Hybrid PD	6.10

A total of 240 schools were randomly recruited for the study; nineteen schools dropped out (7.9% school attrition). Teacher-level attrition for the 231schools that remained in the study is low. A total of 290 teachers were enrolled in the non-attriting schools; 279 completed the study and eleven dropped out (4.0% teacher attrition). Four teachers dropped out of the traditional PD group (3 middle school, 1 high school); five teachers dropped out of the hybrid PD group (2 middle school, 3 high school); and two teachers left the control group.

A number of steps were taken in an effort to limit study attrition. Perhaps the most important factor was the active role that the state coordinators played in the retention of participants. Coordinators, their staffs, and mentor teachers, who run the program in each state, kept in regular contact with the intervention and control group teachers. They met in person with the intervention group teachers during the PD sessions and communicated with them through email and the JMLP digital teacher network. Coordinators traveled to schools—sometimes driving long distances—to meet with PD teachers, observe their classroom instruction, and facilitate the simulated congressional hearing that are the *We the People* curriculum's culminating activity. The research team also was in regular contact with both the intervention and control group teachers, providing support and emphasizing the importance of their participation in the study. The team was available to answer questions at any point in the process by phone or email. Coordinators proctored control teacher surveys associated with the JMLP in person at their schools, and thus maintained close contact with them. Teachers in both the PD and control groups were given a stipend upon completion of all study requirements. Control group participants were offered the opportunity to participate in a future JMLP PD cohort. Participation in the control group required substantially less time and effort than taking part in the PD programs, which likely contributed to control group participants staying in the study.

Measures

The student knowledge study employs a pretest-posttest design. Students took a knowledge pretest before they began their civics class and a posttest when they had completed the course. The evaluation instruments test students' knowledge of core concepts related to the U.S. Constitution, the institutions of government, and elections and voting. The items reflect those found on standard tests of civics and American government and are not specifically aligned with the *We the People* curriculum. Knowledge items were constructed after consulting prior research, civics inventories, grade-appropriate civics tests, and state civic education rubrics. Materials related to *We the People* were not consulted when creating the knowledge tests. (The middle and high school test questions are included in the Appendix.)

The survey items consist of both original questions and those that have been previously tested and have known reliability. Separate grade-appropriate knowledge tests were administered to the middle and high school students. The middle school test consists of twenty-two multiple choice and short answer items, and the high school test includes twenty-seven multiple choice and short answer questions. For every question, students were given the option of answering "I don't know." Additive indexes were created for the middle and high school tests where one point was awarded for each correct answer. The "don't know" answers were coded as incorrect.[10]

The reliability of the pretest and posttest student knowledge measures was established by computing Chronbach's α. All of the measures meet WWC minimum standards for internal consistency reliability. Chronbach's α is greater than .750 for all of the indexes, thus exceeding the WWC's threshold of .500.[11] (See Table 5.)

Table 5
Reliability of Student Knowledge Measures
(Cronbach's α)

	Pretest	**Posttest**
Middle School	.770	.910
High School	.874	.951

The pretests and posttests were created in digital format using SurveyMonkey Pro. Most schools administered the test online. Teachers were provided with links and administered the tests during class periods using computers and tablets available at their schools. Paper-and-pencil tests were sent to 23 schools where it was impossible for students to take the tests online which most often was due to a lack of working computers on site. The tests were returned in a postage-paid box that was provided by the research team. All boxes were returned when testing was completed.[12] Studies have indicated that students who take English/language arts and upper grade math tests on paper score higher than those who take exams on computer.[13] A sensitivity analysis was performed to determine if there was a difference in scores that could be related to taking the pretest or the posttest online or on paper. The analysis found no significant differences in student performance on the JMLP knowledge pretests or posttests that could be attributed to students taking the test in digital or pencil-and-paper format. The test instruments were administered in the same way for the pretest and the posttest. If a pretest was taken online, the posttest also was administered online; the same procedure was followed for paper tests. The tests were administered in the same way for the intervention and comparison groups.

In most schools, the test served as the student assessment for the civics class. The pretest/posttest design allowed schools to measure student growth in civic knowledge. Upon request, teachers received spreadsheets after all testing was completed that provided each

[10]Luskin, Robert, and John G. Bullock. 2011. ""Don't Know" Means "Don't Know": DK Responses and the Public's Level of Political Knowledge," *The Journal of Politics*, vol. 73, no. 2: 547-557.
[11] What Works Clearinghouse, Standards Handbook, Version 4.0, p. 78.
[12]Teachers requiring paper tests personally contacted the research team and were diligent about administering and returning the tests.
[13] Herold, Benjamin.2017. "Comparing Paper and Computer Testing: 7 Key Research Studies," *Education Week*, February 3. https://www.edweek.org/ew/articles/2016/02/23/comparing-paper-and-computer-testing-7-key.html

student's pretest and posttest answers to every question graded as correct or incorrect as well as their final scores on both tests.[14] Approval for the study first was obtained from Georgetown University's Institutional Review Board (IRB). The assistance of the state coordinators was enlisted to identify the appropriate entities for gaining approval for testing at schools in their states. A principal's letter was sent to each school, and follow-up with administrators was made by email and phone. Depending upon the established protocols for particular schools, districts, or states, separate IRB applications and memoranda of understanding were submitted and approved. This process was less arduous for Cohort 2 due to the experience gained in Cohort 1, including the ability to update existing protocols in locations where new schools were added such as New York City, and having a five-month time frame to gain permission.[15]

Non-Response of Individuals

The reference sample for this study is the number of students enrolled in civics classes in non-attriting schools on the day the posttest was administered. Two factors account for nonresponse to the study among students in the reference sample: 1) students discontinuing the posttest after starting it; and 2) students being absent on the day the test was administered and not making up the test under controlled conditions with teacher supervision. Students who took the survey online were required to answer every question before exiting the survey, and had the "I don't know" option available for every item. Thus, missing data was limited for students who completed the tests. It was possible to identify students who exited the online test prematurely, as their tests contained blank answers. Students who took the paper test could leave items blank, and it was clear when students had discontinued taking the test as they either answered none of the knowledge items or stopped partway through the test. In cases where students exited the online survey prematurely or where it was apparent that a student had stopped taking a paper test, the student was dropped from the study. Most students who did not complete the test exited before they had reached the midpoint of the test.

The risk of bias due to non-response of individuals in the sample is limited. (See Table 6.) Joiners are not included in the sample, so "the allowable reference sample consists of individuals in non-attriting clusters at follow-up."[16] In this study, the reference sample consists of students enrolled in civics classes in the non-attriting sample schools on the day the posttest was given. The overall attrition due to non-response of individual students in the middle school sample is 8.4%, and it is 10.5% for the high school sample. Differential attrition between the intervention and comparison groups for the middle school students is very small, and it is only slightly higher for the high school sample. (See Table 7.)

[14]Numerous teachers in Cohort 1 and Cohort 2 have continued to use a version of the test as their assessment in classes since completing the JMLP. Some school districts have adopted the tests as their standard assessment for American government and civics courses.

[15]Two schools that were in the initial random sample were dropped because it was impossible to get IRB approval. These include a school within a correctional facility, where we were not able to find supervisors other than the teacher who would act in loco parentis, and a school in New York state, although we had full cooperation in New York City.

[16]What Works Clearinghouse, Standards Handbook, Version 4.0, p. 26.

Table 6
Non-Response of Individual Students

	Traditional	Hybrid	Control	Total
Middle School				
Reference Sample	1,779	1,398	1,697	4,874
Non-response	152	116	133	410
Analytic Sample	1,627	1,282	1,564	4,064
% Attrition	8.5%	8.3%	7.8%	8,4%
High School				
Reference Sample	1,782	1,954	2,102	5,838
Non-response	176	223	214	613
Analytic Sample	1,605	1,731	1,888	5,224
% Attrition	9.8%	11.4	10.1%	10.5%

Table 7
Differential Attrition Due to Non-Response of Individual Students

	Differential Attrition
Middle School	
Traditional PD/Control	.70
Hybrid PD/Control	.50
Traditional PD/Hybrid PD	.20
High School	
Traditional PD/Control	.30
Hybrid PD/Control	1.30
Traditional PD/Hybrid PD	1.60

Baseline Equivalence

The middle and high school knowledge pretest scores were used to assess the equivalence of the analytic intervention groups and the control group at baseline. The pretest and posttest knowledge measures are identical. All of the conditions satisfy WWC standards for baseline equivalence with statistical adjustment required or better. (See Table 8.) Hedge's g was computed to determine the effect size of the difference between group means. As the standard deviations between the groups are similar, Hedges' g is an appropriate measure of effect size to determine the difference between the intervention and control groups.[18] For the middle school sample, the effect size for the mean difference between the hybrid and control groups has an absolute value of $\leq .05$, and satisfies baseline equivalence. The effect sizes for traditional PD

[18] Hedges, Larry V. 1981. "Distribution Theory for Glass's Estimator of Effect Size and Related Estimators," *Journal of Educational Statistics*, vol. no. 2: 107-128.

/control groups (.14) and traditional PD/hybrid PD groups (.20) meet the standard for baseline equivalence with statistical adjustment (0.05 < absolute value of effect size ≤0.25).[19] For the high school sample, the effect sizes for the traditional PD/control groups (.04) and the traditional PD/hybrid PD groups (.03) satisfy baseline equivalence. The baseline difference between the hybrid PD and control groups (.07), which just barely exceeds the standard for baseline equivalence, meets the criteria for equivalence with statistical adjustment. (See Table A3, Appendix, for Knowledge Pretest/Posttest Unadjusted Means and Standard Deviations.)

Table 8
Middle and High School Sample Baseline Equivalence

	$\bar{x}$ Difference in Pretest Score	Pooled SD	Effect Size (Hedge's G)	WWC Standard for Baseline Equivalence
Middle School				
Traditional/Control	.51	3.74	.14	Statistical adjustment required
Hybrid/Control	.20	3.47	.05	Satisfies baseline equivalence
Traditional/Hybrid	.71	3.57	.20	Statistical adjustment required
High School				
Traditional/Control	.25	5.70	.04	Satisfies baseline equivalence
Hybrid/Control	.41	5.86	.07	Statistical adjustment required
Traditional/Hybrid	.16	5.66	.03	Satisfies baseline equivalence

STUDENT KNOWLEDGE ANALYSIS

Hierarchical linear models were estimated using analysis of covariance (ANCOVA) to determine if there is a statistically significant difference in knowledge scores of the middle and high school students whose teachers had received the traditional or hybrid JMLP PD and students in the control group. ANCOVA is an appropriate model for this analysis, and it meets the statistical adjustment requirement for satisfying baseline equivalence.[20] Students' score on the posttest is the dependent variable. The pretest score is entered as a covariate in the model. The traditional PD/hybrid PD/control group variable is entered as a fixed factor. School is treated as a random factor. Effect size is measured by Hedges' g.

The effects of the interventions on student knowledge are positive and statistically significant for both middle and high school. Student knowledge increased from the pretest to the posttest. Middle and high school students in the traditional PD and the hybrid PD groups demonstrated greater improvement in civic knowledge from pretest to posttest than did the control group. (See Table A4, Appendix.)

[19] WWC Standards Brief for Baseline Equivalence, p. 2; What Works Clearinghouse Standards for Alternative Designs (Jacobson, 2016), p. 7.
[20] WWC Standards Brief, Baseline Equivalence, p. 2, footnote.

Students whose teachers participated in the JMLP scored significantly higher on civic knowledge on the posttest than students in the control group regardless of whether their teachers participated in the traditional PD or hybrid PD program. The differences in mean knowledge scores for students in the traditional PD and hybrid PD groups are small. Middle school students in the traditional PD group scored slightly higher than those in the hybrid PD group. The opposite trend is evident for the high school students, as those in the hybrid PD group had slightly higher scores than those in the traditional PD group. The absence of large, consistent differences in knowledge scores between the two intervention groups is supportive of the case for the scalability of the JMLP PD program using digital resources.

Middle school students in the traditional PD group had an adjusted average score of 13.77 on the knowledge posttest, and those in the hybrid PD group had a mean score of 13.06. The average score for the control group students was 11.31. (See Table 9.) The largest mean difference in scores was between the traditional PD and the control group (2.46), followed by the hybrid PD and the control group (1.75). Both of these difference were statistically significant at p=.00. The effect size for the traditional PD/control difference is .39 and for the hybrid PD/control difference is .24, which falls into the small/moderate range. There is a notably smaller difference for the middle school sample favoring the traditional PD group over the hybrid PD group (.71) that also is statistically significant. The effect size of .17 is small. (See Table 10.) The WWC improvement index for the traditional PD group is 15% and is 9% for the hybrid PD group.[21]

High school students in the traditional PD group had an adjusted mean score of 17.28 on the posttest. Students in the hybrid PD group had a slightly higher average score of 17.75. The adjusted mean posttest score for the control group was 15.44. (See Table 9). The largest mean difference was between the hybrid PD and control groups (2.31). The mean difference for the traditional PD and control groups was 1.84. Both of these mean differences are statistically significant at p=.00. The difference in means between the two intervention groups is small (0.47) and nonsignificant. Effect size based on Hedge's g was calculated for the difference in adjusted mean scores. Hedge's g was .29 for the difference between the traditional PD group and the control group, and .36 for the difference between the hybrid PD group and the control group, indicating a small to moderate effect of the interventions that is greater for the hybrid group. (See Table 10.) The WWC improvement index for the traditional PD group is 11% and is 14% for the hybrid PD group.

[21]What Works Clearinghouse Procedures Handbook, Version 4.0, pp. E10-E11.

Table 9
Estimated Mean Knowledge Scores of JMLP PD and Control Group Students

	n	Adjusted Posttest $\bar{x}$	SE
Middle School			
Traditional	2,003	13.77	.10
Hybrid	1,282	13.06	.16
Control	1,564	11.31	.15
High School			
Traditional	2,120	17.28	.14
Hybrid	2,116	17.75	.18
Control	2,419	15.44	.13

Table 10
Adjusted Mean Difference and Effect Size

	Adjusted $\bar{x}$ Difference	p	Effect Size (Hedge's G)
Middle School			
Traditional/Control	2.46	.00	.39
Hybrid/Control	1.75	.00	.24
Traditional/Hybrid	0.71	.00	.15
High School			
Traditional/Control	1.84	.00	.29
Hybrid/Control	2.31	.00	.36
Traditional/Hybrid	0.47	.12	.07

CONCLUSION

The James Madison Legacy Project provides professional development based on the Center for Civic Education's *We the People* program to teachers of high need students across the country. Two forms of the JMLP PD program were employed in Cohort 2—a traditional PD model that uses live scholars to convey content material and a hybrid PD model that combines face-to-face meetings with scholars and scholar videos followed by discussions facilitated by mentor teachers. This study evaluates students' acquisition of knowledge about civics and American government as a result of taking a class with a teacher who has undergone JMLP PD

education. The research assesses the extent to which the traditional and hybrid forms of PD are successful in preparing teachers to impart civic knowledge to their students.

The findings indicate that the civic knowledge of middle and high school students whose teachers had received JMLP increased from the pretest to the posttest. The students in the intervention groups showed greater improvement in knowledge than students in the control group. Further, JMLP students had significantly higher scores on the knowledge posttest than students in the control group, regardless of whether their teacher had participated in the traditional PD or hybrid PD program. The differences in the scores of students in the traditional PD and hybrid PD groups are small, indicating that the scalable version of the JMLP PD that makes use of scholar videos and digital resources likely is feasible.

APPENDIX

Table A1
Cohort 2 Student Gender and Race/Ethnicity
(Percent)

	Middle School	High School
Gender		
Male	50.8	50.6
Female	49.2	49.4
Race/Ethnicity		
Asian American/Pacific Islander	4.0	8.0
Black/African American	10.9	10.5
Latino/Hispanic	23.6	17.6
Native American or Alaska Native	1.4	2.2
White/Caucasian	50.2	54.7
Multiple Races	9.9	7.0

Table A2
States in JMLP Intervention and Control Groups

All States	Middle School Intervention	Middle School Control	High School Intervention	High School Control
Alabama	Arizona	Alabama	Alabama	Alabama
Alaska	California	Arkansas	Alaska	Alaska
Arizona	Colorado	Arizona	Arizona	Arizona
Arkansas	District of	District of	California	California
California	Columbia	Columbia	Colorado	Colorado
Colorado	Florida	Illinois	District of	District of
District of	Georgia	Indiana	Columbia	Columbia
Columbia	Idaho	Iowa	Florida	Florida
Florida	Illinois	Maine	Georgia	Georgia
Georgia	Indiana	Maryland	Hawaii	Idaho
Hawaii	Kansas	Missouri	Idaho	Illinois
Idaho	Kentucky	Nebraska	Illinois	Indiana
Illinois	Maryland	New Jersey	Indiana	Iowa
Indiana	Massachusetts	Ohio	Iowa	Kansas
Iowa	Michigan	Oregon	Kansas	Kentucky
Kansas	Minnesota	Rhode Island	Kentucky	Massachusetts
Kentucky	Missouri	South Dakota	Louisiana	Michigan
Louisiana	Montana	Tennessee	Maine	Minnesota
Maine	Nebraska	Texas	Maryland	Missouri
Maryland	Nevada	Utah	Massachusetts	Montana
Massachusetts	New Mexico	Virginia	Michigan	Nebraska
Michigan	New York	West Virginia	Minnesota	Nevada
Minnesota	North Carolina		Missouri	Oregon
Missouri	Ohio		Montana	Rhode Island
Montana	Oregon		Nebraska	Tennessee
Nebraska	Pennsylvania		Nevada	Texas
Nevada	South Carolina		New Hampshire	Utah
New Hampshire	Tennessee		New Jersey	Washington
New Jersey	Texas		New Mexico	West Virginia
New Mexico	Virginia		New York	Wisconsin
New York	Washington		North Carolina	Wyoming
North Carolina	West Virginia		Ohio	
Ohio			Oregon	
Oregon			Pennsylvania	
Pennsylvania			Rhode Island	
Rhode Island			South Caroline	
South Carolina			Tennessee	
South Dakota			Texas	
Tennessee			Virginia	
Texas			Washington	
Virginia			West Virginia	

Washington West Virginia Wisconsin			Wisconsin	

Table A3
Knowledge Pretest/Posttest Unadjusted Means and Standard Deviations

	n	Pretest $\bar{x}$	Pretest SD	Posttest $\bar{x}$	Posttest SD
Middle School					
Traditional	2,003	7.87	3.84	13.20	4.86
Hybrid	1,282	7.36	3.30	12.13	4.92
Control	1,564	8.07	3.64	11.91	4.57
High School					
Traditional	2,120	13.52	5.50	16.79	6.14
Hybrid	2,116	13.77	5.81	17.19	6.46
Control	2,419	13.93	5.91	16.17	6.42

Table A4
Student Knowledge Pretest-Posttest Mean Differences
(Paired Samples t test)

	Pretest-Posttest $\bar{x}$ Difference	p
Middle School		
Traditional	5.29	.00
Hybrid	4.85	.00
Control	2.77	.00
High School		
Traditional	3.83	.00
Hybrid	3.48	.00
Control	2.31	.00

Middle School

Knowledge 1

1. The rights to life, liberty, and property are considered

- civil rights
- natural rights
- state's rights
- personal rights
- I don't know

2. In a direct democracy

- the people themselves control government
- laws are administered by representatives of the people
- government officials are elected by a small number of people
- government officials have a lot of power over the general public
- I don't know

3. American colonists who supported the American Revolution were known as

- Loyalists
- Tories
- Libertarians
- Patriots
- I don't know

4. The Articles of Confederation

- declared independence from Great Britain
- set up a strong national government
- gave Congress the right to collect taxes
- was the country's first national constitution
- I don't know

5. The phrase "all men are created equal" is in

- The U.S. Constitution
- The Declaration of Independence
- The Bill of Rights
- The Declaration of Human Rights
- I don't know

6. What happened at the Philadelphia Convention in 1787?

- war was declared on Great Britain
- a national constitution was written to create a new government
- state constitutions were drafted to raise taxes
- John Adams was elected president of the new nation
- I don't know

7. The fifty-five delegates who attended the Philadelphia Convention in 1787 were called

- Framers
- Revolutionaries
- Governors
- Rebels
- I don't know

8. What are the first ten amendments to the U.S. Constitution called?

- The Preamble
- Articles of Confederation
- Civil Rights
- Bill of Rights
- I don't know

9. Who was the first president of the United States?

- James Madison
- George Washington
- Thomas Jefferson
- John Adams
- I don't know

10. What are the three branches of government?

- executive, legislative, electorate
- constitutional, parliament, executive
- legislative, executive, judicial
- political party, congress, president
- I don't know

Knowledge 3

11. Congress is divided into two houses, which are

- Congress and the House of Representatives
- Senate and the House of Cards
- Senate and the House of Representatives
- Senate and the National Legislature
- I don't know

12. The national government is divided into three branches that each serve a distinct purpose. This is called

- federalism
- separation of powers
- popular sovereignty
- checks and balances
- I don't know

13. Who has the power to veto a law?

- the president
- Congress
- the Supreme Court
- the cabinet
- I don't know

14. The power of the Supreme Court to declare laws unconstitutional is called

- judicial pardon
- judicial sanctity
- judicial notification
- judicial review
- I don't know

15. Which branch of government has the power to make laws?

- the presidency
- the judiciary
- the bureaucracy
- the legislature
- I don't know

16. Supreme Court justices

- are elected by the people for a fixed term
- are elected by the people for life
- are appointed by the president for a fixed term
- are appointed by the president for life
- I don't know

17. The purpose of presidential primary elections is

- to elect the president of the United States
- to have voters to select delegates to the Democratic and Republican national conventions
- to let political party leaders to pick their favorite candidates for president
- to let third party candidates into the presidential race
- I don't know

Knowledge 4

18. Who could vote in the American colonies?

- all colonists
- all colonists and Native Americans
- adults age 21 and older
- adult white male property owners
- I don't know

19. The term "suffrage" means

- the right to a trial by jury
- the right to protest
- the right to vote
- the right to redress grievances
- I don't know

20. Presidential elections are decided by

- a majority of the vote
- the popular vote
- a plurality of the vote
- the electoral college
- I don't know

21. The Nineteenth Amendment passed in 1920

- gave women the right to vote
- prohibited literacy tests for voting
- protected the rights of all citizens to vote
- gave African Americans the right to vote
- I don't know

22. What is the voting age in the United States today?

- 16
- 18
- 21
- 25
- I don't know

High School

Knowledge 1

1. The rights to life, liberty, and property are considered

- civil rights
- natural rights
- state's rights
- personal rights
- I don't know

2. John Locke's theory of the social contract states that

- people agree to live under a government with the power to make and enforce laws
- monarchs should rule over the people and have more power than legislatures
- stronger and smarter people should control the life, liberty, and property of the weak
- people have the right to exist in the state of nature without the interference of government
- I don't know

3. In a republican government

- people directly participate in all government decisions
- aristocrats hold power over the common people
- government representatives are not accountable to the people
- citizens elect representatives who make laws and run the government
- I don't know

4. The Articles of Confederation

- declared independence from Great Britain
- set up a strong national government
- gave Congress the right to collect taxes
- was the country's first national constitution
- I don't know

5. The phrase "all men are created equal" is in

- The U.S. Constitution
- The Declaration of Independence
- The Bill of Rights
- The Declaration of Human Rights
- I don't know

Knowledge 2

6. The idea in the Magna Carta that both the government and the people must obey the law is known as

- separation of powers
- federal government
- rule of law
- limited rights
- I don't know

7. What happened at the Philadelphia Convention in 1787?

- war was declared on Great Britain
- a national constitution was written to create a new government
- state constitutions were drafted to raise taxes
- John Adams was elected president of the new nation
- I don't know

8. What solved the problem of representation at the Philadelphia Convention?

- The Virginia Plan
- The Great Compromise
- The Bill of Rights
- The Commerce Clause
- I don't know

9. Who were the Federalists?

- People who supported the U.S. Constitution
- People who pledged their support to Great Britain
- People who refused to follow the new Constitution
- People who opposed setting up a national government
- I don't know

10. The three-fifths clause in Article 1, Section 2 of the Constitution was designed to

- give Congress the right to tax the public
- give the states the ability to regulate foreign trade
- end the slave trade
- resolve conflicts over slavery between northern and southern states
- I don't know

Knowledge 3

11. What are the first ten amendments to the U.S. Constitution called?

- The Preamble
- Articles of Confederation
- Civil Rights
- Bill of Rights
- I don't know

12. The Constitution requires that the President's nomination to the Supreme Court be approved by the Senate. This is an example of

- legislative supremacy
- federalism
- judicial review
- checks and balances
- I don't know

13. Congress is divided into two houses, which are

- Congress and the House of Representatives
- Senate and the House of Cards
- Senate and the House of Representatives
- Senate and the National Legislature
- I don't know

14. The national government is divided into three branches each with a distinct purpose. This is known as

- federalism
- separation of powers
- popular sovereignty
- checks and balances
- I don't know

15. Who has the power to veto a law?

- the president
- Congress
- the Supreme Court
- the cabinet
- I don't know

Knowledge 6

16. The power of the Supreme Court to declare laws unconstitutional is called

- judicial pardon
- judicial sanctity
- judicial notification
- judicial review
- I don't know

17. Which branch of government has the power to make laws?

- the presidency
- the judiciary
- the bureaucracy
- the legislature
- I don't know

18. Which part of government is designed to respond most directly to the will of the people?

- the presidency
- the Senate
- the House of Representatives
- the Supreme Court
- I don't know

19. The president's cabinet is made up of

- members of Congress who help the president make laws
- people who run the president's reelection campaign
- judges who give the president legal advice
- advisors who head government agencies and help the president make decisions
- I don't know

20. The Framers of the Constitution believed that political parties were

- helpful in getting people to turn out to vote
- factions that would fight for their own self interests
- groups that would protect the equal rights of all citizens
- important to include in the Constitution
- I don't know

Knowledge 4

21. Who could vote in the American colonies?

- all colonists
- all colonists and Native Americans
- adults age 21 and older
- adult white male property owners
- I don't know

22. The term "suffrage" means

- the right to a trial by jury
- the right to protest
- the right to vote
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- I don't know

23. Presidential elections are decided by

- a majority of the vote
- the popular vote
- a plurality of the vote
- the electoral college
- I don't know

24. The Nineteenth Amendment passed in 1920

- gave women the right to vote
- prohibited literacy tests for voting
- protected the rights of all citizens to vote
- gave African Americans the right to vote
- I don't know

25. What year did Congress pass a law giving 18 year olds the right to vote?

- 1969
- 1971
- 1954
- 1984
- I don't know

26. Supreme Court justices

- are elected by the people for a fixed term
- are elected by the people for life
- are appointed by the president for a fixed term
- are appointed by the president for life
- I don't know

27. The purpose of presidential primary elections is

- to elect the president of the United States
- to have voters select delegates to the Democratic and Republican national conventions
- to let political party leaders pick their favorite candidates for president
- to let third party candidates into the presidential race
- I don't know