



## **From Scrolling to Engagement: Media Literacy and Youth Civic Development**

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## ABSTRACT

Media literacy is increasingly important for helping young people navigate a complex information environment and participate effectively in civic and political life. This paper examines Project Community, a civic education program of the Center for Civic Education that incorporates media literacy into a policy-focused curriculum for elementary and middle school students. Using pre- and posttest data from treatment and control group classrooms, we first assess whether participation in Project Community improves students' media literacy and other civic outcomes. We then examine how students' media literacy knowledge and confidence are associated with civic skills, including policy action and communication and civil discourse. Students in Project Community demonstrated greater gains in media literacy knowledge than students in control group classrooms. Media literacy outcomes were also strongly associated with broader civic competencies. These findings have implications for civic education, suggesting that media literacy can be effectively integrated into civic education and may complement, rather than compete with, the development of civic knowledge and skills.

## Introduction

The American founders recognized the necessity of educating citizens to evaluate the information they received from newspapers that presented conflicting political perspectives. This concern resonates today, as young people are inundated with media messages disseminated through a complex communication ecosystem (NCSS 2022). Media literacy, especially when integrated with civic learning, can help students be better prepared when they encounter misinformation (Kahne and Bowyer 2017), share their voice (Kahne, Middaugh, and Allen 2015), and engage in the political process (Mihailidis 2019). Media literacy initiatives come at a time of concern about technology's negative impact on young people. Haidt (2024) has noted the negative effects of smartphones and social media for mental health, community connection, and civic engagement. Earlier work by Putnam (2000) noted the role of previous technology changes for declining social capital. Media literacy can help students understand the risks of this environment, but it can also help them understand the civic opportunities it presents.

The Center for Civic Education's *Project Community: Engaging All Students in Media Literacy and Public Policy*<sup>1</sup> was an upper elementary and middle school program that introduced media literacy into their existing Project Citizen curriculum. Students work as a class to identify, research, and propose alternatives to public policy issues in their community. This integration makes media literacy immediately relevant for students, as Project Citizen gives them an opportunity to practice skills like evaluating and citing sources, finding relevant information about their community, and using media to inform others. Project Community addresses the call from scholars for media literacy that "connect[s] learning about media with increased capacity to meaningfully participate in media practices and contemporary society" (Mihailidis 2019, 14).

The Civic Education Research Lab (CERL) at Georgetown University evaluated the effectiveness of Project Community in producing positive media literacy and civic outcomes in students. The research employed a randomized controlled trial (RCT) design that compared students in Project Community classes to control group students who took a traditional civics course. Project Community students became more knowledgeable and confident about media literacy, although only the knowledge gains were significantly different from control group students. The inclusion of media literacy lessons enhanced other elements of the Project Citizen curriculum. Students' civic knowledge, policy action skills, and communication and civil discourse skills improved, aligning with previous evaluations of Project Citizen (Owen 2024). Correlation and regression analyses demonstrated that media literacy was strongly associated with other civic skills. These results suggest that media literacy belongs within civic education, where it can help students navigate information while complementing the development of civic knowledge, policy action, and communication and civil discourse skills.

## Media Literacy Education

Citizens must be able to find and evaluate information to stay informed about the issues (Delli Carpini and Keeter 1996). Media literacy education can be an effective way to help

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students develop these skills. The National Association of Media Literacy Education (NAMLE) defines media literacy as “The ability to access, analyze, evaluate, create, and act using all forms of communication.” Strong media literacy should do more than teach students about media and technology; it should help them find ways to use these skills to more effectively engage in politics. Media literacy education should not wait until someone is ready to vote. Building these skills early, starting in elementary school, can prepare students for the challenging media landscape that awaits them (Hobbs and Moore 2013).

The current moment highlights many of the challenges young people face with media. Misinformation is everywhere, with students and even their parents being exposed to it. Owen (2026) found that teachers, at all grade levels, have students bringing misinformation into their classes and want support and resources to help them address and correct what they hear from students. Media literacy can be one way to help students better evaluate the media they consume, so that they are better able to identify misinformation (Kahne and Bowyer 2017). Students can become more effective consumers of news, which is associated with greater civic engagement (Hobbs et al. 2013).

Media have been blamed for many challenges facing young people today. Haidt (2024) argues that the rise of smartphones and social media contributed to increased anxiety and isolation among young people. Rather than being connectors, these affordances have left many young people addicted and more isolated. Recognizing this trend, the U.S. Surgeon General declared a loneliness epidemic (U.S. Surgeon General 2023). Instead of using media to lift up voices, it is frequently used to put people down, creating concerning levels of cyberbullying (Haidt 2024). Many schools are responding to this with stricter phone policies and moving away from one-to-one devices, such as tablets and laptops (Cantor et al. 2025). The emergence of AI presents another challenge that schools, parents, and students will have to figure out (Fullan et al. 2024).

The civic consequences of these changes may already be visible. Putnam (2000) argued that earlier forms of media consumption reduced social interaction and participation, weakening social capital. More recently, the Pew Research Center identified four profiles of civic engagement among Americans: Mobilizers, Connectors, Spectators, and Outsiders (Shearer et al. 2026). Young adults are much less likely than older Americans to be Connectors, who are involved in their communities, and substantially more prone to be Spectators, who are less inclined to be civically engaged. Many young people are paying attention to politics and public affairs but are less likely to translate that attention into participation. This gap between attention and action creates an important role for civic education.

Media literacy education occurs across different subjects (Hobbs 2011), but it may be especially impactful in the civics classroom because media literacy can help young people turn information into civic action. Mihailidis (2019) emphasizes the importance of civic media literacy that extends beyond the individual responsibility to critically evaluate media. “Media literacy’s intention has always been to connect learning about media with increased capacity to meaningfully participate in media practices and contemporary society” (Mihailidis 2019, 14).

This broader conception is also reflected in research connecting media literacy and digital media use to civic participation. Kahne, Middaugh, and Allen (2015) argue that new media can provide young people with opportunities to express their political and civic voices and connect with networks that support broader participation. Other research similarly finds relationships between media literacy education and civic or political engagement, suggesting that learning to understand media can help with learning how to communicate, participate, and act in public life (Martens 2010). Research on youth digital participation further demonstrates that the skills and practices associated with new media environments can support forms of civic and political engagement (Kahne, Lee, and Feezell 2012). This work suggests that media literacy can complement civic education by helping students to evaluate the information they encounter and use information and media to develop their voices, connect with others, and participate in civic life.

This broader understanding of media literacy is reflected in the outcomes commonly examined in media literacy research. Burth et al.'s (2024) review of U.S.-based media literacy initiatives identifies six types of impacts, or “6Es”: Evaluation, Enquiry, Expression, Experiential Learning, Engaged Citizenship, and Equity. (See Figure 1.) The framework highlights that media literacy is not limited to determining whether information is credible. It also involves how students seek information, express themselves, learn through participation, and engage with their communities. This study focuses most directly on Evaluation and Engaged Citizenship, while the other dimensions remain important elements of Project Community’s approach to integrating media literacy into civic education.

**Figure 1. The “6Es” Framework**

|                       |                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Evaluation            | Impact is defined by outcomes, measurements, and experiments.                                                                           |
| Enquiry               | Impact is defined by critical thinking, questioning, and challenging.                                                                   |
| Expression            | Impact is defined by art, creativity, and media production.                                                                             |
| Experiential Learning | Impact is defined by engaging education curriculum development, student-led learning, and media production.                             |
| Engaged Citizenship   | Impact is defined by civic engagement in politics, current events, and social issues.                                                   |
| Equity                | Impact is defined by action-oriented, transformative, and emancipatory research, pedagogy, and interventions that address inequalities. |

Source: Burth et al. 2024

## Project Community

The Center for Civic Education’s Project Community program supported the development of media literacy resources and teacher professional learning. Teachers participated in week-long professional learning institutes where they participated in hands-on lessons and received resources about media literacy and public policy. Eight media literacy modules were created to be integrated into the Center’s existing public policy focused Project Citizen curriculum. The resources included guided lesson plans and short, engaging videos that were made publicly available. The modular nature of these lessons meant that teachers could

incorporate these lessons throughout their instruction where they fit best. While these modules could be used in stand-alone lessons in any subject, their explicit integration in Project Citizen signaled the importance of media literacy for empowering students to become thoughtful and engaged citizens in their community.

The teachers in this study came from a variety of schools, including many who taught in Title I schools. Some instructors taught large numbers of students with disabilities, English language learners, and students performing well below grade level. This breadth of participants addressed important challenges of media related to unequal access to media and media literacy education, including differences in access to technology and unequal opportunities to develop digital skills at home. Making literacy materials accessible to students with disabilities or varying literacy levels is an additional obstacle (Johnson et al. 2024; Mihailidis et al. 2026). Previous studies of the Center's programs by CERL have shown that lessons that consider these types of high-need students can result in gains in civic knowledge and skills for all students (Owen and McSweeney 2026).

Project Community was designed to influence two related sets of outcomes: students' ability to critically evaluate and use media and their capacity for engaged citizenship (Burth et al. 2024). As Figure 2 illustrates, the media literacy modules covered a range of topics and did not focus solely on the dangers of media or students' individual responsibility for navigating the media environment. Students learned to evaluate sources and identify bias. They also were taught how to create and share information, cite evidence, understand the role of a free press in democracy, and consider their own role as media users and creators.

### Figure 2. Media Literacy Lessons

- 1) Does a Free Press Support Democracy?
- 2) Do I Have a Role in Media Literacy?
- 3) Is All Media Biased?
- 4) Can I Identify Reliable Media Sources?
- 5) Do I play a Role in Staying Safe Online?
- 6) Can I Effectively Create and Share Information?
- 7) Do I Have to Cite My Sources?
- 8) Am I Media Literate?

These skills were integrated into a curriculum that required students to practice what they learned. Working as a class, Project Citizen has students identify and research a public policy problem in their community, evaluate alternative policies, develop a proposed solution, and communicate their findings. The culminating activity is a showcase where students present their projects and proposed policies to stakeholders, including local community leaders. The Project Community modules were designed to better prepare students for these activities while also developing media literacy knowledge and confidence. The treatment provides media literacy instruction beyond that available through traditional civics and social studies curricula. We therefore expect students exposed to Project Community to demonstrate improvements in media literacy and to experience greater gains than students in the business-as-usual comparison group. We test the following hypotheses:

**H<sub>1a</sub>:** Students in Project Community classes will demonstrate significant increases in media literacy knowledge and confidence.

**H<sub>1b</sub>:** Students in Project Community classes will demonstrate greater gains in media literacy knowledge and confidence than students in control group classes.

Project Community was designed to preserve and enhance the civic benefits of Project Citizen. Previous research has found that Project Citizen improves students' civic knowledge, skills, and dispositions (Owen 2024). Integrating media literacy into the curriculum should enhance these outcomes. Skills, such as finding and evaluating information, communicating with others, and using media to address community problems, may support the knowledge gains and civic competencies that Project Citizen seeks to develop. Accordingly, we expect:

**H<sub>2a</sub>:** Students in Project Community classes will demonstrate significant increases in civic knowledge.

**H<sub>2b</sub>:** Students in Project Community classes will demonstrate significant increases in civic skills.

Project Community treats media literacy as part of the broader process of civic engagement not as isolated skills. Students use media literacy skills to investigate public problems, assess competing claims and evidence, communicate with others, and develop policy proposals. In this context, media literacy knowledge and confidence should be connected to the civic skills students use to participate in the Project Citizen process. Students with stronger media literacy knowledge and confidence should therefore also demonstrate stronger civic knowledge, policy action skills, and communication and civil discourse skills. Media literacy knowledge and confidence should also improve how students use media. Accordingly:

**H<sub>3a</sub>:** Media literacy knowledge and confidence will be positively associated with civic knowledge.

**H<sub>3b</sub>:** Media literacy knowledge and confidence will be positively associated with civic skills.

**H<sub>3c</sub>:** Media literacy knowledge and confidence will be positively associated with media literacy behavior.

## **Project Community Student Study**

CERL's study of Project Community was conducted throughout the 2025-2026 academic year and used a teacher-level randomized controlled trial involving students in grades 4–8 from 14 states. A pretest and posttest design was employed in the student study to test the effectiveness of the program for increasing media literacy confidence and to explore the relationship between media literacy and other civic skills. Summer institutes, hosted in New Jersey, Maryland, Wyoming, and Arizona, provided teachers with media literacy and public policy instruction, hands-on lesson demonstrations, and classroom ready resources related to

media literacy and public policy. Teachers were randomly assigned to either the treatment group that participated in the Project Community professional learning program or the control group which taught a traditional civics class and did not receive the professional learning program.<sup>2</sup> All students whose teachers were in the intervention or control groups were recruited for the study.

There were 1096 students included in the study, with 857 receiving the Project Community intervention and 239 in the control group. A higher percentage of the students were in middle school with 77% of Project Community and 73% of control group students in 7<sup>th</sup> or 8<sup>th</sup> grade. The remaining students were in grades 4-6. The characteristics of the students in the Project Community intervention and control groups were similar. There were some differences related to the age and race/ethnicity of the groups. The control group has more 12-year-old students whereas the Project Community group has more 13-year-olds. The control group had a larger proportion of white students, while the Project Community group had more Hispanic or Latino students. (See Table 1.)

**Table 1. Student Sample Characteristics**

|                       | PD  | Control |
|-----------------------|-----|---------|
| n                     | 857 | 239     |
| <b>Gender</b>         |     |         |
| Male                  | 48% | 49%     |
| Female                | 50% | 49%     |
| Non-binary            | 2%  | 1%      |
| <b>Grade</b>          |     |         |
| Grades 4-6            | 23% | 27%     |
| Grades 7-8            | 77% | 73%     |
| <b>Age</b>            |     |         |
| 9                     | 1%  | —       |
| 10                    | 5%  | 18%     |
| 11                    | 15% | 9%      |
| 12                    | 15% | 50%     |
| 13                    | 55% | 21%     |
| 14                    | 9%  | 3%      |
| <b>Race/ethnicity</b> |     |         |
| White                 | 31% | 47%     |

<sup>2</sup> Forty-six teachers completed the full requirements of the program, including teacher and student pretests and posttests. The program started with 114 teachers. Attrition was high, as federal grant funding was cancelled mid-program which limited the ability of state coordinators to follow up with participating teachers. There were no other impacts on the study design. An analysis of pretest values found that the baseline differences between students who only took the pretest and those in the full sample were minimal. (See Appendix 1). Students who only took the pretest had a lower civic knowledge mean and the students that completed the pretest and posttest were lower in communication and civil discourse the baselines in the other indexes were not significantly different.

|                            |     |     |
|----------------------------|-----|-----|
| Black or African American  | 13% | 15% |
| Hispanic or Latino         | 41% | 27% |
| AAPI                       | 10% | 5%  |
| Multiracial or multiethnic | 2%  | 3%  |
| Other                      | 4%  | 3%  |

## Measures

Media literacy was conceptualized using two primary constructs, knowledge and confidence. Indexes of media literacy evaluation knowledge and media literacy acquisition knowledge were created to capture distinct dimensions within the knowledge dimension. The confidence dimension was divided into confidence in media literacy evaluation and media use. We also measured media literacy behavior through a battery of questions, asked only on the posttest, that asked students how they use media. Other civic measures included civic knowledge, policy action skills, and communication and civil discourse. All measures were built from multiple indicators. The internal consistency reliability based on Cronbach's  $\alpha$  indicated that the items composing these indexes measured similar concepts. (See Table 2.)

**Table 2. Study Measures Index Reliabilities: Cronbach's  $\alpha$**

|                                               | Pre | Post | Range |
|-----------------------------------------------|-----|------|-------|
| Perceived Media Knowledge Omnibus Index       | .86 | .87  | 1-25  |
| Perceived Media Knowledge - Evaluation Index  | .76 | .77  | 1-13  |
| Perceived Media Knowledge - Acquisition Index | .74 | .75  | 1-13  |
| Media Literacy Confidence – Omnibus Index     | .90 | .92  | 1-40  |
| Media Literacy Confidence – Evaluation Index  | .85 | .87  | 1-22  |
| Media Literacy Confidence – Media Use Index   | .82 | .85  | 1-19  |
| Media Literacy Behavior                       | --  | .85  | 1-16  |
| Knowledge Index                               | .72 | .81  | 0-10  |
| Policy Action Skills Index                    | .76 | .78  | 1-11  |
| Communication and Civil Discourse Index       | .68 | .74  | 1-13  |

Students must be able to find and evaluate different sources of information, an especially valuable skill given the fragmentation of media and the rise of misinformation across the internet (Kahne and Bowyer 2017). The media literacy evaluation index measures students' knowledge of how to evaluate media sources for misinformation and credibility. Students were asked how much they know about: (1) why there is so much conflicting information about government and

politics, (2) the intentions behind who creates and shares information, (3) how to determine the credibility of a source, (4) how to spot fake images and false information, (5) how to critically analyze and use information, and (6) how to detect when AI has been used to create content. The answer options were (1) not much, (2) some, and (3) a great deal.

Media literacy encompasses knowing where to find relevant information and how to use it effectively (Kahne, Middaugh, and Allen 2015). The acquisition index measures students' knowledge of how to obtain information and use it effectively. The items included: (1) current events, (2) how to get information about government and public policy, (3) where to find useful information about the community in which you live, (4) how to use citations properly, (5) how to draw conclusions about government and public policy from different sources, and (6) how you can effectively use media to inform others. The omnibus media literacy competencies index combines all 12 items and ranged from a low score of 1 to a high of 25. The internal consistency reliabilities of the indexes were strong.

By covering these media literacy concepts throughout the civics course, students should become more confident in their ability to evaluate and use media. While some media literacy is focused on the dangers of media and technology, these tools can be effective for civic engagement (Mihailidis 2019). Confidence in media literacy evaluation measures students' assuredness in evaluating sources of media for misinformation, credibility, and accuracy. This index included the following items: (1) identifying sources of reliable information, (2) analyzing the credibility of sources, (3) evaluating information from media, (4) determining the accuracy of social media posts, (5) identifying misinformation from media, (6) countering misinformation from media, and (7) understanding AI-generated content. Answer options included 1) not very confident, 2) somewhat confident, 3) very confident, and 4) extremely confident. The Cronbach's  $\alpha$  coefficients for the pretest and posttest indexes were robust.

The confidence in media use index measures students' confidence in consuming and producing media to gain or share information. These items include: (1) citing digital sources, (2) organizing information from a variety of media sources, (3) using media to inform others, (4) using social media to engage with others responsibly, (5) using media to reach different audiences, and (6) using media skills to learn about public policy. The omnibus index ranged from 1 to 40. The reliability was strong across the pre- and post-program surveys. The media evaluation index ranged from 1 to 22, and the media use index ranged from 1 to 19. The index reliabilities were acceptable.

Students may be knowledgeable about and confident in their media literacy skills, but they may not practice good media use behavior. The posttest included questions about how students engaged in specific media literacy behaviors. An index was created ranging from 1-16 with a Cronbach's  $\alpha$  of .85. The items asked students if they (1) Look for information and evidence before deciding what to believe, (2) Check whether the information you are getting comes from a reliable source, (3) Compare information about the issue or policy from more than one source, (4) Use credible sources to find out more, (5) Determine if a post, image, or video is accurate. These items were coded 1) never, 2) rarely, 3) sometimes, and 4) always.

Project Citizen seeks to advance students' civic knowledge through active learning. Civic knowledge was based on ten multiple choice items relating to general knowledge of the public policy process, federalism, branches of the U.S. government, departments and agencies involved in the policy process, interest groups, and nongovernmental organizations. While these content areas are addressed by the Project Citizen curriculum, the items were not overly aligned with the intervention and were based on established measures with known reliability. Each item had four response categories and an "I'm not sure" option. One point was given for each correct item; no points were assigned for wrong answers or "I'm not sure" responses. The civic knowledge items were combined into pretest and posttest indexes that ranged from 0 to 10 points. The internal consistency reliability of the indexes based on Cronbach's  $\alpha$  was .72 for the pretest and .81 for the posttest.

Project Citizen has students work to create policy action in their community. A pretest and posttest battery was included to see how prepared students felt they were to: (1) identify issues and problems facing your community, (2) research a problem in your community, (3) use your science, math, or technology skills to address a problem, (4) develop a plan to work on a problem, and (5) work with others to solve a problem in your community. Answer options included (1) not prepared, (2) somewhat prepared, (3) very prepared. The policy action skills index ranged from 1-11 and the Cronbach's  $\alpha$  was .76 for the pretest and .78 for the posttest.

Media offer opportunities to connect with others and listen to multiple viewpoints. These skills are especially important in times of high misinformation and polarization (Kahne and Bowyer 2017; Gaultney, Sherron, and Boden 2022). Civic education can help strengthen communication and civil discourse skills (Hess and McAvoy 2015, Owen 2024, Owen and McSweeney 2026). Six items were used to measure students' communication and civil discourse skills. They were asked, "Do you always, sometimes, or rarely feel this way?" followed by: (1) I am comfortable speaking in front of a group, (2) I am willing to share my views with others, (3) I care about other people's points of view, (4) when others disagree with me, I respect their views, (5) I work well with other students on projects, and (6) it's important to arrive at an agreement or consensus when working with others. The response categories were (1) rarely, (2) sometimes, and (3) always. The index ranged from 1-13 with a pretest Cronbach's  $\alpha$  of .68 and a posttest of .74.

## Methods

The pretest-posttest design used in this study compares students' scores on media literacy knowledge, media literacy confidence, civic knowledge, policy action skills, and communication and civil discourse skills before and after they were taught Project Community or a traditional civics course. Difference of means tests (paired samples t-tests) were conducted to identify within group shifts in the pretest and posttest measures. The pretest and posttest mean scores and standard deviations, the difference of pretest/posttest means and significance test, the percentage change in pretest/posttest means, the effect size based on Hedge's  $g$ , the improvement index, and the pretest/posttest correlation and significance test were reported. The percentage change is a useful statistic as it is easily interpreted and accessible to a wide audience. However, as a ratio it can be misleading, especially if the initial value is near zero (Curran-Everett and Williams 2015),

which was rarely the case in this study. The percentage difference supplements other measures of change that are reported, including effect size and WWC's improvement index.

The intraclass correlation coefficient (ICC) was reported to determine the proportion of variance in the outcome measures that can be attributed to differences between classrooms relative to the total variance. It reflects how strongly students in the same classroom resemble one another relative to the dependent variable. The conditional ICC was reported as classroom is the only random factor in the model (Lovric 2025).<sup>3</sup> ICC values of .25 indicate that a multilevel model is appropriate as it can improve the accuracy of the parameter estimates (Powers 2026). The ICC value was below .20 for all measures except for civic knowledge, which was .33 for Project Community students and .36 for control group students.

Given this clustering for civic knowledge, linear mixed models (LMMs) were employed to handle the hierarchical and repeated-measures structure of the data. The assumption of independence of observations may be compromised if students in a classroom are similar to one another but different from students in other classrooms (O'Dwyer and Parker, 2014; Ker, 2014). The dependent variable was the posttest score on the index for each construct. The fixed effects in the model measure the change in students' scores that can be attributed to time (pretest to posttest). The random effects estimate the variability specific to individual classrooms. The Conditional  $R^2$  indicates the proportion of variance explained by both time and the classroom clusters. The difference between the conditional  $R^2$  and the marginal  $R^2$  reflects the proportion of variance explained by classroom alone (Sotirchos, Fitzgerald, and Crainiceanu, 2019).

Hierarchical linear models were estimated using analysis of covariance (ANCOVA) to determine if there were statistically significant differences in the adjusted posttest scores of the intervention and control group students. ANCOVA was an appropriate model for this analysis as it adjusts for non-equivalence in intervention and control group scores at baseline. Posttest outcome measures were the dependent variables. Pretest outcome measures were entered as covariates. Intervention/control group was a fixed factor.

Multivariate models were estimated to assess the relationship of media literacy on other civic skills. Separate OLS regression models were run for civic knowledge, media literacy behavior, policy action skills, and communication and civil discourse skills. The dependent variables were the posttest indexes. The pretest index was entered as a covariate to control for baseline levels of the dependent measures. The VIF values for the pretest variables were 1.3 or less, indicating low levels of multicollinearity. There was evidence of moderate multicollinearity among the media literacy variables, although VIF values were below 2.25 in all models. The bivariate correlations between media literacy and the other skills indicators were moderate to high (see Table #.) Media literacy knowledge and confidence were entered as a block in the model, and the  $R^2$  for the block was interpreted. The pretest value, posttest civic knowledge, and dummy variables for treatment (0 control group; 1 Project Community group) and middle school (0 Elementary; 1 middle school) were each entered as separate blocks.

## Results

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<sup>3</sup> The guidelines for interpreting ICC used in this analysis are ICC=0-.10, little to no classroom clustering; ICC>.10-<.25 moderate clustering; ICC>.25 strong clustering.

### *Media Literacy Knowledge*

Students' media literacy knowledge improved significantly across both dimensions following Project Community. The omnibus index scores that combined media literacy knowledge evaluation and acquisition increased by 24% with a moderately large effect size (Hedges  $g$ ) of .56. The control group started with a lower baseline media literacy knowledge that also increased during the school year. Control group teachers increased by 20% with a moderate effect size of .36. Both the media literacy knowledge evaluation and acquisition indexes increased at similar rates. Project Community students increased their media literacy evaluation knowledge by 22% and acquisition knowledge by 23% with effect sizes of .49 and .50 respectively. In comparison, control group students increased by 17% and 19% with smaller effect sizes of .31 and .36. (See Table 3.)

**Table 3. Media Literacy Knowledge  
Difference of Means Tests**

|                      | Media Literacy Knowledge Omnibus |         | Media Literacy Knowledge Evaluation |         | Media Literacy Knowledge Acquisition |         |
|----------------------|----------------------------------|---------|-------------------------------------|---------|--------------------------------------|---------|
|                      | PC                               | Control | PC                                  | Control | PC                                   | Control |
| $\bar{X}$ Pre        | 12.50                            | 11.67   | 6.85                                | 6.47    | 6.65                                 | 6.20    |
| SD Pre               | 5.45                             | 6.19    | 3.00                                | 3.43    | 2.85                                 | 3.13    |
| $\bar{X}$ Post       | 15.53                            | 13.99   | 8.37                                | 7.60    | 8.16                                 | 7.39    |
| SD Post              | 5.30                             | 5.66    | 2.85                                | 3.10    | 2.78                                 | 2.96    |
| $\bar{X}$ Difference | 3.03                             | 2.32    | 1.52                                | 1.13    | 1.51                                 | 1.19    |
| Significance         | .00                              | .00     | .00                                 | .00     | .00                                  | .00     |
| Percentage Change    | 24%                              | 20%     | 22%                                 | 17%     | 23%                                  | 19%     |
| Effect Size          | .56                              | .36     | .49                                 | .31     | .50                                  | .36     |
| Improvement Index    | +21                              | +14     | +19                                 | +12     | +19                                  | +14     |
| n                    | 846                              | 238     | 846                                 | 238     | 846                                  | 238     |

Students in Project Community classes showed significantly greater gains in media literacy knowledge than students in the control group. The ANCOVA model adjusts for baseline differences in the pretest indexes and computes adjusted mean posttest scores. The mean difference for the omnibus index was 1.17 points, .62 points for evaluation and .59 points for acquisition. These differences were all statistically significant. (See Table 4.)

**Table 4. Media Literacy Knowledge  
ANCOVA**

|                            | Perceived<br>Knowledge<br>Omnibus | Perceived<br>Knowledge<br>Evaluation | Perceived<br>Knowledge<br>Acquisition |
|----------------------------|-----------------------------------|--------------------------------------|---------------------------------------|
| PD Adjusted Post Mean      | 15.45                             | 8.34                                 | 8.12                                  |
| Control Adjusted Post Mean | 14.28                             | 7.72                                 | 7.54                                  |
| Difference                 | 1.17                              | .62                                  | .59                                   |
| SE                         | .35                               | .19                                  | .19                                   |
| Significance               | .00                               | .00                                  | .00                                   |

### *Media Literacy Confidence*

Students' media literacy confidence increased significantly from pretest to posttest for both treatment and control group students. The omnibus index increased by 22% with a moderately large effect size of .48 for Project Community students and 21% with a moderate effect size of .36 for control group students. We still see increases in media literacy confidence when indexes are broken down into evaluation and media use. For Project Community students, evaluation confidence increased by 23% with a moderately large effect size of .50 and media use confidence increased by 18% with an effect size of .38. Again, the control group scores also increased significantly from pretest to posttest on these constructs with evaluation confidence increasing by 20% with an effect size of .36 and media use increasing by 19% with a .33 effect size. (See Table 5.)

**Table 5. Media Literacy Confidence  
Difference of Means Tests**

|                      | Confidence<br>Omnibus Index |         | Confidence<br>Evaluation Index |         | Confidence<br>Media Use Index |         |
|----------------------|-----------------------------|---------|--------------------------------|---------|-------------------------------|---------|
|                      | PC                          | Control | PC                             | Control | PC                            | Control |
| $\bar{x}$ Pre        | 19.49                       | 18.60   | 10.84                          | 10.47   | 9.65                          | 9.12    |
| SD Pre               | 8.60                        | 9.89    | 4.81                           | 5.53    | 4.30                          | 4.85    |
| $\bar{x}$ Post       | 23.71                       | 22.45   | 13.33                          | 12.57   | 11.38                         | 10.86   |
| SD Post              | 8.91                        | 9.32    | 4.90                           | 5.21    | 4.41                          | 4.53    |
| $\bar{x}$ Difference | 4.22                        | 3.86    | 2.49                           | 2.09    | 1.73                          | 1.76    |
| Significance         | .00                         | .00     | .00                            | .00     | .00                           | .00     |
| Percentage Change    | 22%                         | 21%     | 23%                            | 20%     | 18%                           | 19%     |
| Effect Size          | .48                         | .36     | .50                            | .36     | .38                           | .33     |

|                   |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|
| Improvement Index | +18 | +14 | +19 | +14 | +15 | +13 |
| n                 | 835 | 236 | 835 | 236 | 835 | 236 |

Adjusting for baseline differences, the ANCOVA models revealed that the differences between treatment and control group students were not statistically significant. The t-tests showed that treatment students also became more confident about media literacy. The effect was similar amongst Project Citizen and control group students. Media literacy evaluation confidence was the only index that reached significance at  $p < .10$ . These skills, such as evaluating sources and reliable information received a lot of attention in the Project Community videos and may have received more practice throughout the program. (See Table 6.)

**Table 6. Media Literacy Confidence  
ANCOVA**

|                            | Confidence Index | Confidence Evaluation | Confidence Media use |
|----------------------------|------------------|-----------------------|----------------------|
| PD Adjusted Post Mean      | 23.62            | 13.29                 | 11.34                |
| Control Adjusted Post Mean | 22.79            | 12.70                 | 11.06                |
| Difference                 | .83              | .59                   | .28                  |
| SE                         | .59              | .33                   | .30                  |
| Sig                        | .16              | .07                   | .35                  |

## Civic Knowledge, Skills, and Participation

Beyond the media literacy growth, we also expect students to improve in other areas. Previous studies have demonstrated that Project Citizen is an effective program for developing civic knowledge and skills (Owen 2024). With the addition of the media literacy components, this analysis examines whether improvement in civic knowledge, policy action skills, and communication and civil discourse skills continues to be present.

### *Civic Knowledge*

Students' knowledge of American government and politics improved significantly after the Project Community intervention. Control group students' knowledge also increased following their conventional civics class, but the magnitude of the change was smaller. (See Table 7.) Linear mixed models (LMMs) were estimated for the Project Community intervention and control groups to handle the hierarchical and repeated-measures structure of the data. ICC coefficients for both conditions indicated moderate clustering by classroom. The difference between the conditional and marginal pseudo  $R^2$  values suggested that 32% of the variance in the model was explained by class clustering. The mean knowledge scores adjusted for clustering improved by 1.34 points compared to  $\approx 1$  point for the control group. The moderate effect size (Hedge's  $g$ ) of .51 for the Project Community students corresponded to an improvement index of +20 percentile points. The effect size for the control group was somewhat smaller (.45), and the

improvement index was +17 percentile points. An ANCOVA analysis was run to determine if the differences in posttest mean knowledge scores were significant across the intervention and control conditions. The model accounted for differences in the pretest knowledge index at baseline and controlled for class clustering. The differences in the adjusted posttest means showed that the Project Community students' average knowledge score was .89 points higher than the control group.

**Table 7. Civic Knowledge  
Linear Mixed Models and Mixed ANCOVA Models**

| <b>Linear Mixed Model</b>                                   |                          |                |
|-------------------------------------------------------------|--------------------------|----------------|
|                                                             | <b>Project Community</b> | <b>Control</b> |
| ICC                                                         | .33                      | .36            |
| Marginal R <sup>2</sup>                                     | .06                      | .03            |
| Conditional R <sup>2</sup>                                  | .38                      | .38            |
| Difference R <sup>2</sup> c-R <sup>2</sup> m                | .32                      | .35            |
| Fixed Effects Estimates                                     |                          |                |
| Intercept                                                   | 4.81**                   | 3.55**         |
| Time                                                        | 1.32**                   | .98**          |
| <b>Mixed ANCOVA Model by Condition</b>                      |                          |                |
|                                                             | <b>Project Community</b> | <b>Control</b> |
| $\bar{X}$ Pretest                                           | 3.76                     | 3.25           |
| $\bar{X}$ Posttest                                          | 5.11                     | 4.22           |
| $\bar{X}$ Difference                                        | 1.34**                   | .97**          |
| % Change                                                    | 36%                      | 30%            |
| Effect Size                                                 | .51                      | .45            |
| Improvement Index                                           | +20                      | +17            |
| n                                                           | 771                      | 239            |
| <b>Comparison of Adjusted Posttest <math>\bar{X}</math></b> |                          |                |
| Project Community                                           | 5.09                     |                |
| Control                                                     | 4.20                     |                |
| Adjusted $\bar{X}$ Difference                               | .89**                    |                |

\*\*p≤.01

### *Civic Skills*

Project community students became more prepared to address problems in their community and better able to communicate with peers and others. Their policy action skills increased by 13%, an effect size of .32, and their communication and civil discourse skills increased by 8%, an effect size of .29. Control group students had smaller gains with a 10% increase in policy action skills and a 5% increase in communication and civil discourse skills. (See Table 8.)

**Table 8. Civic Skills  
Difference of Means Tests**

|  | <b>Policy Action</b> | <b>Communication</b> |
|--|----------------------|----------------------|
|  |                      |                      |

|                      | Skills |         | and Civil<br>Discourse Skills |         |
|----------------------|--------|---------|-------------------------------|---------|
|                      | PC     | Control | PC                            | Control |
| $\bar{x}$ Pre        | 6.85   | 6.33    | 8.77                          | 8.10    |
| SD Pre               | 2.50   | 2.75    | 2.44                          | 2.58    |
| $\bar{x}$ Post       | 7.74   | 6.97    | 9.51                          | 8.49    |
| SD Post              | 2.42   | 2.64    | 2.52                          | 2.81    |
| $\bar{x}$ Difference | .88    | .64     | .74                           | .39     |
| Significance         | .00    | .00     | .00                           | .02     |
| Percentage Change    | 13%    | 10%     | 8%                            | 5%      |
| Effect Size          | .32    | .21     | .29                           | .14     |
| Improvement Index    | +13    | +8      | +11                           | +6      |
| n                    | 830    | 232     | 826                           | 231     |

Adjusting for nonequivalence at baseline, the posttest mean difference between Project Community and control group students was statistically significant for both variables. Project Community students scored .58 points higher in policy action skills. The difference was .70 for communication and civil discourse skills. (See Table 9.)

**Table 9. Civic Skills  
ANCOVA**

|                            | Policy Action<br>Skills | Communication<br>and Civil<br>Discourse |
|----------------------------|-------------------------|-----------------------------------------|
| PD Adjusted Post Mean      | 7.70                    | 9.44                                    |
| Control Adjusted Post Mean | 7.12                    | 8.74                                    |
| Difference                 | .58                     | .70                                     |
| SE                         | .17                     | .17                                     |
| Sig                        | .00                     | .00                                     |

### *Civic Participation and Media Literacy*

Following their Project Community instruction, students reported that they had intentions to participate and a better understanding of the media landscape. More than two-thirds (69%) of Project Community students said that after taking this class they were more likely to take part in their community. Only 51% of control group students agreed with this statement. Although these

students were in grades 4-8, many were already thinking about voting when they become eligible. 76% of Project Community students said they intend to vote when they get the chance compared to 64% of control group. Further supporting Project Community's impact on media literacy, 79% of Project Community students said they knew more about how media works and the same percentage said they were better able to spot misinformation. In contrast, 64% of control group students felt they knew more about how media works and 65% were better able to spot misinformation. These large gaps between Project Community and control group students were all statistically significant. (See Table 10.)

**Table 10. Civic Participation and Media Literacy**

| Since taking this class                              |     |         |            |          |
|------------------------------------------------------|-----|---------|------------|----------|
| Percentage Yes                                       | PD  | Control | Difference | <i>p</i> |
| Are you more likely to take part in your community?  | 69% | 51%     | +18%       | .00      |
| Do you intend to vote if you are eligible?           | 76% | 64%     | +12%       | .00      |
| Do you feel you know more about how the media works? | 79% | 64%     | +15%       | .00      |
| Are you better able to spot misinformation?          | 79% | 65%     | +14%       | .00      |

### Civic Knowledge, Media Literacy, and Engaged Citizenship

To examine the basic associations among civic knowledge, media literacy competencies, and civic skills, we computed Pearson's *r* correlations among the six indexes. All correlations were statistically significant at  $p \leq .01$ . (See Table 11.) Civic knowledge was positively associated with each of the media literacy and civic skills measures. The strongest relationships with civic knowledge were for media literacy knowledge and media literacy behavior ( $r = .37$  for each), followed by media literacy confidence ( $r = .32$ ). Civic knowledge was somewhat less strongly associated with policy action and communication and civil discourse skills ( $r = .27$  for each). These results suggest that civic knowledge is related to students' broader media literacy and civic competencies, but that the measures capture distinct dimensions of civic learning.

**Table 11. Correlations (Pearson's *r*) Between Civic Knowledge, Media Literacy, and Engaged Citizenship Measures**

|               | Civic Knowledge | ML Knowledge | ML confidence | ML Behavior | Policy Action |
|---------------|-----------------|--------------|---------------|-------------|---------------|
| ML Knowledge  | .37             |              |               |             |               |
| ML Confidence | .32             | .72          |               |             |               |
| ML Behavior   | .37             | .61          | .62           |             |               |
| Policy Action | .27             | .59          | .63           | .59         |               |

|                          |     |     |     |     |     |
|--------------------------|-----|-----|-----|-----|-----|
| Comm and Civil Discourse | .27 | .51 | .52 | .56 | .60 |
|--------------------------|-----|-----|-----|-----|-----|

All correlations are statistically significant at  $p \leq .01$

The media literacy measures were strongly related to one another. The highest correlation was between media literacy knowledge and media literacy confidence ( $r = .72$ ), indicating substantial overlap between what students report knowing about media literacy and their confidence in applying those skills. Media literacy knowledge was also strongly associated with media literacy behavior ( $r = .61$ ). Media literacy confidence and behavior were similarly correlated ( $r = .62$ ). These relationships suggest that students who reported greater knowledge of how to evaluate and use media also tended to express greater confidence in those abilities and reported engaging in media literacy behaviors more frequently. At the same time, the correlations are not so large as to suggest that the three indexes measure an identical construct.

Media literacy competencies were also associated with the two broader civic skills measures. Policy action was moderately to strongly related to media literacy knowledge ( $r = .59$ ), confidence ( $r = .63$ ), and behavior ( $r = .59$ ). Communication and civil discourse skills showed a similar pattern, with correlations of .51 with media literacy knowledge, .52 with media literacy confidence, and .56 with media literacy behavior. Policy action and communication and civil discourse were strongly related ( $r = .60$ ). These findings indicate that media literacy is closely connected to students' broader civic competencies, particularly their capacity to address public policy issues and communicate with others, while remaining statistically distinguishable from those skills.

Multivariate OLS regression was used to further assess the association between the media literacy variables and the dependent measures of civic knowledge, media literacy behavior, policy action skills, and communication and civil discourse. The predictors were entered in blocks to deal with the multicollinearity among the media literacy measures. Separate blocks were entered for the pretest score on the dependent variable, media literacy measures, civic knowledge, treatment (control or intervention group), and elementary or middle school. The percentage of variance explained by each block ( $R^2$ ) was interpreted, as the OLS regression coefficients could be unreliable. (See Table 12.)

Pretest scores were significant predictors for the posttest index for the three dependent variables with pretest values. Pretest scores explained 26% of the variance in civic knowledge, 14% in policy action skills, and 22% of the variance in communication and civil discourse.

Media literacy was a significant predictor for each dependent variable. The  $R^2$  for the media literacy block shows how much variance in the dependent variable is explained by media literacy knowledge and confidence. Media literacy knowledge and civic knowledge ( $r = .38$ ), media literacy confidence (.32) were statistically significant correlates of civic knowledge. Together, the media literacy measures accounted for an additional 5% of the variance in civic knowledge. The predictive power of media literacy was greater for the other outcomes. Media literacy explained 45% of the variance in media literacy behavior. The media literacy block explained 32% of the variance in policy action skills and 17% of the variance in communication and civil discourse skills. Media literacy knowledge and confidence were significant predictors, but media literacy confidence was the stronger correlate.

Civic knowledge was less associated with the other competencies when media literacy knowledge and confidence were also included in the models. Civic knowledge was positively associated with media literacy behavior and had a small association with communication and civil discourse, but it was not significantly associated with policy action skills. Civic knowledge added only 2% to the explained variance in media literacy behavior and less than 1% in the policy action and communication and civil discourse models.

Participation in Project Community was positively associated with civic knowledge ( $r=.17$ ), media literacy behavior (.11), policy action skills (.13), and communication and civil discourse skills (.16). The  $R^2$  attributed to treatment was small across the models, never greater than 1%. Grade level also contributed relatively little additional explanatory power. Middle school was positively correlated with civic knowledge ( $r=.33$ ) and weakly correlated with media literacy behavior (.08), there is no significant correlation between middle school and policy action skills and communication and civil discourse skills.

Overall, the models accounted for substantial portions of the variance in each outcome, with  $R^2$  values of .35 for civic knowledge, .45 for media literacy behavior, .47 for policy action skills, and .41 for communication and civil discourse skills. The results indicate that media literacy knowledge and confidence are highly associated with students' media literacy behavior and policy action skills and more moderately associated with communication and civil discourse skills.

**Table 12. OLS Regression Analysis**

|                      | Civic Knowledge |             | Media Lit. Behavior |             | Policy Action Skills |             | Communication & Civil Discourse |             |
|----------------------|-----------------|-------------|---------------------|-------------|----------------------|-------------|---------------------------------|-------------|
|                      | <i>r</i>        | $R^2$ Block | <i>r</i>            | $R^2$ Block | <i>r</i>             | $R^2$ Block | <i>r</i>                        | $R^2$ Block |
| Pretest              | .51**           | .26**       | --                  | --          | .38**                | .14**       | .47**                           | .22**       |
| Media Lit Knowledge  | .38**           | .05**       | .62**               | .45**       | .60**                | .32**       | .51**                           | .17**       |
| Media Lit Confidence | .32**           |             | .62**               |             | .63**                |             | .51**                           |             |
| Civic Knowledge      | --              | --          | .38**               | .02**       | .27**                | .00         | .27**                           | .00         |
| Treatment            | .17**           | .01**       | .11**               | <.01*       | .13**                | <.01**      | .16**                           | .01**       |
| Middle School        | .33**           | .03**       | .08*                | .00         | -.01                 | .01**       | -.01                            | .01**       |
| Total $R^2$          |                 | .35         |                     | .45         |                      | .47         |                                 | .41         |
| n                    | 1,021           |             | 968                 |             | 1,032                |             | 1,031                           |             |

Note: \*  $p \leq .05$ , \*\*  $p \leq .01$

## Conclusion

The findings from the Project Community study highlight the value of embedding media literacy within a program like Project Citizen. Rather than learning media literacy as an isolated set of skills, students can immediately use those skills to investigate a community problem, evaluate relevant information and sources, communicate with others, and develop possible solutions. In this way, combining media literacy with Project Citizen makes media literacy more relevant to students while helping prepare them to participate effectively in their communities.

The media literacy competencies students developed through Project Community were highly associated with other types of civic engagement, such as policy action skills and communication and civil discourse. Project Community and control group students' media literacy knowledge of both how to evaluate media and media acquisition improved significantly. Project Community students made greater gains than control group students, suggesting that the curriculum was effective in building media literacy knowledge. The findings were more mixed for media literacy confidence.

The effectiveness of Project Citizen in developing civic knowledge and skills has been established in previous studies (Owen 2024). Integrating media literacy modules into the Project Citizen curriculum enhanced these results. Project Community students saw greater gains in civic knowledge, policy action skills, and communication and civil discourse. The media literacy outcomes were strongly associated with the other civic outcomes, suggesting that media literacy competencies are closely connected to broader capacities for engaged citizenship. Students with greater media literacy knowledge and confidence also demonstrated higher policy action and communication and civil discourse skills. Media literacy knowledge and confidence were also associated with media literacy behavior, suggesting that students who felt more knowledgeable and capable were more likely to report putting those competencies into practice.

## Appendix

### Appendix 1: Pretest Differences Between Stayers and Leavers

|             | <b>Civic Knowledge</b> | <b>ML Knowledge</b> | <b>ML Confidence</b> | <b>Policy Action Skills</b> | <b>Comm and Civil Discourse</b> |
|-------------|------------------------|---------------------|----------------------|-----------------------------|---------------------------------|
| Stayer Mean | 3.52                   | 12.34               | 19.33                | 6.76                        | 8.64                            |
| Leaver Mean | 3.25                   | 12.26               | 19.11                | 6.85                        | 8.84                            |
| <i>p</i>    | .00                    | ns                  | ns                   | ns                          | .03                             |

### Appendix 2: Intraclass Correlation Coefficients (ICC)

|                           | PD  | Control |
|---------------------------|-----|---------|
| Knowledge                 | .33 | .35     |
| Class Emphasis            | .19 | .12     |
| Media Literacy Confidence | .17 | .13     |
| Project Citizen           | .10 | .14     |
| SEL                       | .14 | .11     |
| Class Evaluation          | .18 | .11     |
| Class Acquisition         | .17 | .11     |
| Conf Evaluation           | .16 | .11     |
| Conf Media Use            | .16 | .12     |

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