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Research paper

Teachers' Critical Media Literacy Implementation As a Correlate of Civic Engagement and Critical Thinking Skills Among Senior High School Learners

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ABSTRACT

This quantitative, cross-sectional, descriptive-correlational study examined critical media literacy (CML) implementation among 54 Social Studies teachers and its association with civic engagement and critical thinking reported by 448 senior high school learners in three public schools in Laguna, Philippines, during school year 2025-2026. Researcher-developed questionnaires assessed four dimensions of CML implementation, four dimensions of civic engagement, and four dimensions of critical thinking. Overall internal consistency was high for the teacher (Cronbach's α = .916) and learner (α = .972) instruments. Teachers reported high CML implementation, while learners generally agreed with statements describing civic engagement and critical-thinking competencies. Group comparisons indicated differences by selected demographic variables; particularly, grade-level differences appeared across several outcomes. However, none of the 32 reported correlations between teacher implementation dimensions and learner outcomes were statistically significant ($p > .05$). The findings underscore the distinction between reported instructional implementation and measured learner outcomes and support more closely aligned, classroom-level research on CML pedagogy and performance-based assessments of civic engagement and critical thinking skills.

1. Introduction

Learners in senior high school utilize algorithm-assisted online platforms and can be provided with conflicting or dishonest information. Therefore, learners should develop effective media literacy skills (Hobbs et al., 2024). Teachers play a significant role in assisting learners in assessing, analyzing, and using media sensibly (Grizzle et al., 2021).

Notably, Critical Media Literacy (CML) has gained acceptance but remains underutilized in schools because of the lack of adequate resources, teacher training, and support needed (Yadav, 2025; Darmawan et al., 2025). By definition, CML involves analyzing the creators' purpose, credibility of sources, bias, misinformation, and learning about ethical, truthful, and responsible communication in the digital world (Oxford Research Encyclopedias 2022; Guerola-Navarro et al., 2022).

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Incorporating CML in civic education leads to establishing skills linked to SDG 4 (Quality education) and SDG 16 (Peace, Justice, and Strong Institutions), promoting responsible and informed citizenship (UNESCO, 2017; UNDP, 2023). CML is increasingly being acknowledged for the role it takes in developing critical thinking skills, community participation, and democratic engagement, especially due to the rise of digital misinformation. Grizzle et al. (2021) pointed out the importance of CML for global education objectives and the role of Social Studies teachers in educating responsible citizens. Simpson (2021) emphasized the significance of CML in participatory democracy.

Nonetheless, research remains restricted with respect to teachers' use of CML in classrooms and its implications for learners' civic actions and ability to think critically (Oxford Research Encyclopedias, 2022). Several researchers did not manage to exhaust key theories and strategies such as Social Constructivism (Rachmad, 2025), Assessment for Learning (Schellekens et al., 2021), Participatory Culture (Alalem, 2023), and Civic Online Reasoning (Guath & Nygren, 2022) while investigating the relationship between learning in the classroom and learner engagement on the web and in their civic life. Most studies also ignore teachers' and learners' point of view, which makes it less possible to understand how CML works (Darmawan et al., 2025).

This gap can be seen clearly in the case of the Philippines, where the majority of research has its basis in Western settings. The knowledge gap regarding the use of CML with Senior High School learners and teachers in Laguna emerges. The challenges of Poor training of teachers, lack of support from institutions, insufficient digital skills, and lack of consistency in the use of CML in the classroom necessitate more studies on the topic (Yadav, 2025). Although previous research indicates that CML contributes to civic engagement and higher-order thinking, very few studies connect it to the actual civic commitment of learners and their critical skills (Simpson, 2021). The current paper aims to measure the extent to which CML is used and the extent of its influence on civic engagement and critical thinking of Senior High School learners in Laguna province of the Philippines. The conclusions will help to enhance the provision of educational services in the country.

The present study identifies the connections between the application of CML by educators and the civic engagement of secondary school learners as well as their level of critical thinking. The research combines theory and data for improving the academic practice and enabling learners to become responsible citizens, as noted by Caffrey et al. (2024) and Simpson (2021).

The main theories and practices used in this research are Civic Online Reasoning (COR), Assessment for Learning, Participatory Culture Theory, and CML practices themselves. Learners' capacity to assess online content is linked to CML, as are their civic participation. According to Participatory Culture Theory, learners learn to collaborate, communicate, and take collective action after interacting with content (Alalem, 2023). According to the COR theory, learners learn to use evidence, argue, and engage in lateral reading to determine bias and assess online content (Guath & Nygren, 2022). These theories informed the proposed correlation, but the cross-sectional design cannot establish whether the instruction affects learning outcomes.

2. Objectives of the Study

Determinants of the study include teachers' and learners' sex, age, grade level, and academic strand. It also determines how teachers utilize CML in resources, classroom activities, assessment, and teaching. Additionally, learners' critical thinking is determined by analyzing arguments, solving problems, using logic, and assessing evidence. Their civic engagement is determined by volunteering, practicing social responsibility, advocating, and working in the community. The study also determines if there are differences in learners' critical thinking and civic engagement based on background. Furthermore, it determines if teachers' use of CML is associated with these findings. Finally, the study also determines if there are differences between groups regarding learners' critical thinking and civic engagement and if teachers' use of CML is associated with these learner findings.

3. Literature Review

3.1. Teachers Critical Media Literacy Implementation

According to most experts, moving from traditional, teacher-led instruction to active, learner-centered methods is key to teaching Critical Media Literacy (CML). Hosseinzadeh et al. (2024) and Sukackė et al. (2022) both recommend hands-on, practical learning, introducing the 4C and ID models to handle complex material. Sukackė et al. (2022) also suggest Project-Based Learning (PBL) to help learners develop both academic and

interpersonal skills. Otchie and Pedaste (2020) and Mee et al. (2022) add that technology can support active learning and connect learners through social media or gamification.

In the Philippines, Bautista Jr. (2021) and Carambas and Tibaldo (2025) agree that while teachers use effective methods like collaborative learning, they still find it hard to apply theoretical CML knowledge in real situations. Kline (2023) and Kong (2021) look at psychological factors behind learner engagement, such as motivation and self-efficacy. In contrast, De Jesus et al. (2024) and Share and McBride (2022) highlight environmental and infrastructural factors, like the importance of libraries in learning. Barri et al. (2025) note that technical skills and ethical behavior differ. They argue that even people with strong media literacy skills might not always act responsibly.

3.2. Civic Engagement and Critical Thinking

According to the researchers, civic engagement is not just about being engaged; it is also about actively connecting with the community. Ginwright (2022) and Garcia et al. (2021) find that by acting and collaborating to solve actual community problems, young people gain agency. Estrera (2024) uses the "3Cs" framework—Community, Collaboration, and Citizenship—to put this idea into practice.

Both Plummer et al. (2022) and Warsah et al. (2021) employ interactive methods to illustrate how thinking involves decision-making-based learning and how collaboration supports learners' emotional and social development. Researchers collectively state that to develop critical thinking, people must transition from traditional approaches to more active, inquiry-driven learning. The present study examines the extent of associations, while there are differences across contexts.

4. Methods

4.1. Design and Respondents

This research employed a cross-sectional, descriptive-correlational design to determine the relationship between Senior High School learners' critical thinking and civic engagement and teachers' Critical Media Literacy (CML) practices. Using descriptive research, researchers can describe a situation (McCombes, 2020). Using correlational research, researchers can determine the relationship between variables; however, they cannot establish if there is a cause and effect.

This research was conducted among 448 Senior High School learners and 54 Social Studies teachers in three public secondary schools in one Schools Division Office in Laguna, Philippines, in the 2025–2026 school year. These schools were chosen to be diverse regarding learners, resources, and setting. Using Raosoft software, researchers determined the sample size based on the population, a 5% margin of error, a 95% confidence level, and the estimated response rate. The sample cannot be characterized as a probability sample of all Philippine senior high schools and generalization must be made cautiously.

Using stratified random sampling in the chosen schools, the researcher aimed to ensure that both learners and teachers were appropriately included to minimize selection bias. According to Babbie (2020) and Privitera (2024), employing probability sampling can appropriately represent the sample by following the recommendations of these authors. Additionally, according to Rahman (2023), using probability sampling can help to minimize researcher bias and determine sampling error. The schools were selected purposively, but respondents were selected randomly.

To obtain quantitative evidence of how these variables are related in the chosen schools, researchers used a questionnaire to determine both learners' civic engagement and critical thinking and teachers' CML practices.

4.2. Instruments

Two questionnaires were utilized in this study. The first was used to evaluate how Social Studies teachers incorporate Critical Media Literacy (CML) based on four domains: Engagement, Assessment, Resource Integration, and Instructional Strategies. Respondents were asked to rate these domains on a 4-point Likert scale. Additionally, teachers were asked to provide their demographic data to allow for quantitative evaluation of how they incorporate CML. The second questionnaire was administered to Senior High School learners to evaluate Critical Thinking Skills (Logical Reasoning, Argument Assessment, Evidence Evaluation, Problem Solving) and Civic Engagement (Social Responsibility, Volunteerism, Advocacy, Community Participation). Each domain was queried using a 4-point Likert scale to determine if a correlation can be identified.

4.3. Expert Validation and Pilot Reliability

Feedback was provided by 5 experts from various universities to revise and refine the questionnaire based on content validity. The experts used the 13 validation criteria, focusing on relevance, clarity, appropriateness, organization, and alignment. Analysis using a five-point Likert scale across 13 items showed generally strong agreement regarding the survey's quality. Ratings ranged from 4.00 to 4.60, demonstrating cultural acceptability, response stability, and relevance, with most participants rating it Strongly Agree. The pilot test included 30 learners and 15 teachers, who indicated that the survey was reliable and valid. Using Cronbach's alpha, teacher survey reliability ranged from .713 to .917, demonstrating strong internal consistency for analysis. Learner survey reliability ranged from .852 to .949, with an overall reliability of .972, indicating excellent measurement quality. The findings support content validity and internal consistency.

4.4. Procedure and Ethics

Data were collected through three phases: validation and obtaining administrative approval, conducting the actual data collection, and processing data to guarantee reliability. To guarantee reliability, Cronbach's Alpha was used by validating and pilot testing the instrument and receiving institutional approval. Finally, with approval again, the data were collected from 448 learners and 54 teachers at public schools in Laguna through Google Forms while maintaining confidentiality and obtaining consent to ensure ethical guidelines were followed.

4.5. Analysis

Data were processed and counted to verify and validate research findings. SPSS (Statistical Package for the Social Sciences) was utilized to perform statistical analyses to specifically address the research questions.

Research Question 1 was investigated using descriptive statistics. Research Questions 2 and 3 were analyzed using the weighted mean. To determine the mean scores, a four-point Likert scale was used to measure respondents' answers, and the following verbal meanings were assigned. To specifically address Research Question 4, tests of difference (t-test and ANOVA) were employed to determine whether learners' learning outcomes varied based on profile variables. An independent-samples t-test was used to compare two groups (e.g., male versus female), and a One-Way analysis of variance (ANOVA). To specifically address Research Question 5, Pearson Product-Moment Correlation (Pearson-r) was used to determine the strength and direction of the relationship between the independent variable (teachers' CML implementation) and the dependent variable (learners' critical thinking and civic engagement). Based on a p-value compared to the significance level of $\alpha = 0.05$, the null hypothesis can be rejected or not.

5. Results and Discussion

5.1. Profile of the Respondents

Table 1: Demographic Profile of Teacher Respondents

Demographic Variable	Category	Frequency	Percentage (%)
Age	25 and below	5	9.3
	26–35	27	50.0
	36–45	12	22.2
	46–55	9	16.7
	56–65	1	1.9
	Total	**54**	**100**
Sex	Male	18	33.3
	Female	36	66.7
	Total	**54**	**100**
Years in Service	5 years and below	30	55.6
	6–10 years	12	22.2
	11–20 years	12	22.2
	Total	**54**	**100**
Educational Attainment	Bachelor's Degree	15	27.8
	Master's Units	29	53.7

	Master's Degree	8	14.8
	Doctorate Units	2	3.7
	Total	**54**	**100**

Based on Table 1, the most common teacher respondent age is 26–35 (50% of total respondents; 27 individuals). Additionally, most of the teacher respondents are women (66.7% of total; 36 teachers) compared to men (33.3%; 18 teachers). Regarding their years of teaching experience, the most common response was '5 years and below' (30 respondents or 55.6%). Finally, the most common degree is 'Master's Unit' (29 teachers or 53.7% of total teacher respondents). Additionally, two individuals (3.7% of total) are currently pursuing a doctoral study or are in postgraduate studies.

Table 2: Demographic Profile of Learner Respondents

Demographic Variable	Category	Frequency	Percentage (%)
Age	16–20	440	98.2
	21–25	8	1.8
	Total	**448**	**100**
Sex	Male	190	42.4
	Female	258	57.6
	Total	**448**	**100**
Academic Strand	STEM	273	60.9
	HUMSS	175	39.1
	Total	**448**	**100**
Grade Level	Grade 11	214	47.8
	Grade 12	234	52.2
	Total	**448**	**100**

Based on the data in Table 2, nearly all participants were 16-20 years old (98.2%), which is 440 participants. Eight participants (1.8%) were from other age groups (21-25). Based on the data, most participants were female, as there were 258 female respondents out of 448 total. Additionally, the most popular strand was STEM with 273 participants (60.9%). There are 234 participants in Grade 12 (52.2%) and 214 participants in Grade 11 (47.8%).

5.2. Extent of Teachers' CML Implementation and Learner Outcomes

Table 3: Summary of the overall mean of the Teachers' CML Implementation and Learner Outcomes in Civic Engagement and Critical Thinking

Measure	Dimension	Mean
Teacher CML	Instructional strategies	3.48
Teacher CML	Assessment practices	3.33
Teacher CML	Classroom engagement	3.48
Teacher CML	Resource integration	3.49
Civic engagement	Community participation	2.88
Civic engagement	Volunteer involvement	2.80
Civic engagement	Advocacy behavior	2.72
Civic engagement	Social responsibility	3.06
Critical thinking	Evidence evaluation	3.22
Critical thinking	Argument analysis	2.98
Critical thinking	Logical reasoning	3.08
Critical thinking	Problem solving	3.14

Note: 3.25 – 4.00 Strongly Agree; 2.50 – 3.24 Agree; 1.75 – 2.49 Disagree; 1.00 – 1.74 Strongly Disagree

According to Table 3, teachers often incorporate Critical Media Literacy (CML) into four main areas: using instructional strategies (M = 3.48), using assessment methods (M = 3.33), engaging learners in the classroom (M = 3.48), and integrating resources (M = 3.49). Based on Strongly Agree ratings across each area, many teachers use CML in their instruction. Participants rated integrating resources as the most often used, while using assessment methods was the least often used.

These researchers agree with this finding: Mihailidis et al. (2025) stated how CML in Social Studies allows learners to explore media bias and power. McDougall et al. (2018) discussed how utilizing media examples can allow learners to better understand and become more engaged. Hasan (2024) stated that providing positive feedback during assessments helps learners to develop their cognitive abilities. Huang et al. (2024) noted that media literacy interventions enable learners to assess content and avoid misinformation. Arribas et al. (2025) stated that learners benefit from media literacy by learning how to understand complex messages and avoid misinformation. Antonio and Prudente (2024) stated that using inquiry-based learning allows learners to further develop their problem-solving and higher-order thinking abilities. The National Council for the Social Studies (2022) noted that individuals should utilize media literacy to understand diverse sources of information. Al Zou'bi (2022) reported that Media and Information Literacy enables people to improve their critical thinking abilities and avoid misinformation. Robertson and Ortgies-Young (2023) stated that teachers' use of varied assessment methods and their digital abilities help learners develop critical and academic thinking. Based on this data, teachers stated that they often use CML, but they could enhance its use by improving their assessments.

According to Table 3, learners generally agreed with four aspects of civic engagement: being involved in the community (M = 2.88), participating in volunteering (M = 2.80), engaging in advocacy (M = 2.72), and demonstrating social responsibility (M = 3.06). Based on the highest mean, many individuals felt more responsible to their communities. Based on the lowest mean, people could benefit from more opportunities to actively participate in civic endeavors.

These researchers agree with this finding: Maulana and Milante (2023) stated that civic disposition and willingness to take on community responsibilities are important for ongoing democratic participation. Li et al. (2024) stated that volunteering allows individuals to create a sense of purpose, develop resilience, and build a prosocial identity. Paull et al. (2022) stated that schools should encourage volunteering and allow for people to engage with their peers. Regarding advocacy, Paras (2024) stated that participating in school-based advocacy provides real-world experiences to further develop abilities and become better individuals. Sanderson (2022) linked social responsibility with greater academic engagement and prosocial ability. Bernardo et al. (2022) stated that this can be linked to Global Citizenship Education (GCED) to help individuals become more actively involved in their communities rather than passive observers. Based on this data, individuals can conclude that they have a positive attitude toward civic engagement and demonstrate social responsibility; however, they require more opportunities to volunteer, advocate, and actively participate in their communities to turn this into continued participation.

According to Table 3, learners generally agreed with four aspects of critical thinking abilities: analyzing arguments (M = 2.98), reasoning logically (M = 3.08), solving problems (M = 3.14), and evaluating evidence (M = 3.22). Based on the highest mean, individuals feel they are generally able to determine whether information is trustworthy or false. Based on the lowest mean, learners could benefit from being able to analyze arguments more effectively.

These researchers agree with this finding: McGrew (2024) stated that learning digital literacy helps individuals analyze evidence more effectively. Ramasamy et al. (2024) noted that examining evidence before concluding is important to avoid digital misinformation. Concerning analyzing arguments, Muslim et al. (2025) demonstrated that argumentation helps develop critical thinking, the ability to clearly explain themselves, and to differentiate between opinions and facts. Indrawati (2025) emphasized the value of logical reasoning in science, though learners often find it challenging. Pickering et al. (2025) linked logical reasoning to better practical understanding. Regarding solving problems, Wang et al. (2023) stated that self-reflection and flexible strategies help learners transfer knowledge and solve problems more effectively. Gkintoni et al. (2025) noted that emotional intelligence and clear thinking support good decision-making. Based on this data, individuals feel they are strong in critical thinking overall, especially in evaluating evidence and solving problems; they still require improvement in analyzing arguments and reasoning logically to better interpret information, build evidence-based arguments, and handle more complex problems.

5.3. Significant Difference in Learners' Civic Engagement and Critical Thinking Skills When Grouped According to Their Profile Variables

Table 4: Test of Significant Difference in Learners' Civic Engagement When Grouped According to Demographic Profile

Civic Engagement Dimension	Demographic Profile	Between Groups (SS; df; MS)	Within Groups (SS; df; MS)	Total (SS; df)	F-statistic	p-value	Decision	Interpretation
Community Participation	Age	.173; 1; .173	139.479; 446; .313	139.65; 447	.552	.458	Accept H_0	Not Significant
Community Participation	Sex	2.028; 1; 2.028	137.623; 446; .309	139.651; 447	*6.574	.011	Reject H_0	**Significant**
Community Participation	Academic Strand	1.863; 1; 1.863	137.788; 446; .309	139.651; 447	*6.029	.014	Reject H_0	**Significant**
Community Participation	Grade Level	2.900; 1; 2.900	136.751; 446; .307	139.651; 447	**9.459	.002	Reject H_0	**Significant**
Volunteer Involvement	Age	.041; 1; .041	154.111; 446; .346	154.151; 447	.117	.732	Accept H_0	Not Significant
Volunteer Involvement	Sex	.031; 1; .031	154.120; 446; .346	154.151; 447	.090	.764	Accept H_0	Not Significant
Volunteer Involvement	Academic Strand	1.098; 1; 1.098	153.054; 446; .343	154.151; 447	3.198	.074	Accept H_0	Not Significant
Volunteer Involvement	Grade Level	1.410; 1; 1.410	152.741; 446; .342	154.141; 447	*4.118	.043	Reject H_0	**Significant**
Advocacy Behavior	Age	.027; 1; .027	171.444; 446; .384	171.471; 447	.071	.789	Accept H_0	Not Significant
Advocacy Behavior	Sex	2.587; 1; 2.587	168.885; 446; .379	171.171; 447	**6.831	.009	Reject H_0	**Significant**
Advocacy Behavior	Academic Strand	.888; 1; .888	170.583; 446; .382	171.471; 447	2.322	.128	Accept H_0	Not Significant
Advocacy Behavior	Grade Level	3.882; 1; 3.882	167.589; 446; .342	171.471; 447	**10.331	.001	Reject H_0	**Significant**
Social Responsibility	Age	.030; 1; .030	140.344; 446; .315	140.374; 447	.097	.756	Accept H_0	Not Significant
Social Responsibility	Sex	1.983; 1; 1.983	138.391; 446; .310	140.374; 447	*6.390	.012	Reject H_0	**Significant**
Social Responsibility	Academic Strand	1.357; 1; 1.357	139.018; 446; .312	140.374; 447	*4.352	.038	Reject H_0	**Significant**
Social Responsibility	Grade Level	4.354; 1; 4.354	136.020; 446; .305	140.374; 447	**14.278	.000	Reject H_0	**Significant**

Note: *± 1.00 Perfect Correlation; ± 0.80 - ± 0.99 Very High Correlation*
± 0.60 - ± 0.79 High Correlation ± 0.40 - ± 0.59 Moderate Correlation
± 0.20 - ± 0.39 Low Correlation ± 0.01 - ± 0.19 Very Low Correlation
0.00 No correlation

**Significant at $p < 0.05$*
***Significant at $p < 0.01$*

Based on Table 4, there are differences in learners' civic engagement based on sex, academic strand, and grade level but not on age. Significant differences in community participation were based on sex ($F = 6.574$, $p = .011$), academic strand ($F = 6.029$, $p = .014$), and grade level ($F = 9.459$, $p = .002$). There was no significant difference based on age ($F = 0.552$, $p = .458$). This suggests community participation differs across these groups, supporting Ouano et al. (2025), who highlighted civic engagement and shared responsibility among learners. Chittum et al. (2022) also found that service-learning and community-based experiences can increase civic engagement, and Paras (2024) noted the importance of leadership and literacy activities for community participation. For volunteer involvement, there were no significant differences by age ($F = 0.117$, $p = .732$), sex ($F = 0.090$, $p = .764$), or academic strand ($F = 3.198$, $p = .074$), but grade level did show a significant difference ($F = 4.118$, $p = .043$). This suggests that volunteer involvement changes with grade level. Advocacy behavior showed significant differences by sex ($F = 6.831$, $p = .009$) and grade level ($F = 10.331$, $p = .001$), but not by age ($F = 0.071$, $p = .789$) or academic strand ($F = 2.322$, $p = .128$). Advocacy participation varied by sex and grade level. Social responsibility also differed by sex ($F = 6.390$, $p = .012$), academic strand ($F = 4.352$, $p = .038$), and grade level ($F = 14.278$, $p < .001$), but not by age ($F = 0.097$, $p = .756$). In summary, grade level differed significantly in all four areas of civic engagement, sex in three, and academic strand in two, while age did not differ significantly in any area. These results suggest that civic education programs should consider demographic differences to give all learners fair opportunities.

Table 5: Test of Significant Difference in Learners' Critical Thinking When Grouped According to Demographic Profile

Critical Thinking Skill	Demographic Profile	Source	SS	df	MS	F-stat	p-value	Decision	Interpretation
Evidence Evaluation	**Age**	Between Groups	.000	1	.000	.000	.993	Accept H0	Not Significant
		Within Groups	159.839	446	.358				
		Total	159.839	447					
Evidence Evaluation	**Sex**	Between Groups	.330	1	.330	.923	.337	Accept H0	Not Significant
		Within Groups	159.508	446	.358				
		Total	159.839	447					
Evidence Evaluation	**Academic Strand**	Between Groups	.051	1	.051	.143	.705	Accept H0	Not Significant
		Within Groups	157.787	446	.358				
		Total	159.839	447					
Evidence Evaluation	**Grade Level**	Between Groups	6.799	1	6.799	**19.815	.000	Reject H0	**Significant**
		Within Groups	153.039	446	.343				
		Total	159.839						
Argument Analysis	**Age**	Between Groups	.016	1	.016	.051	.821	Accept H0	Not Significant
		Within Groups	141.491	446	.317				
		Total	141.507	447					
Argument Analysis	**Sex**	Between Groups	.273	1	.273	.863	.353	Accept H0	Not Significant
		Within Groups	141.234	446	.317				
		Total	141.507	447					
Argument Analysis	**Academic Strand**	Between Groups	.082	1	.082	.260	.611	Accept H0	Not Significant
		Within Groups	141.425	446	.317				
		Total	141.507	447					
Argument Analysis	**Grade Level**	Between Groups	7.522	1	7.522	**25.039	.000	Reject H0	**Significant**
		Within Groups	133.985	446	.300				
		Total	141.507	447					
Logical Reasoning	**Age**	Between Groups	.488	1	.488	1.667	.197	Accept H0	Not Significant
		Within Groups	130.460	446	.293				
		Total	130.947	447					
Logical Reasoning	**Sex**	Between Groups	.510	1	.510	1.743	.187	Accept H0	Not Significant
		Within Groups	130.437	446	.292				
		Total	130.947	447					
Logical Reasoning	**Academic Strand**	Between Groups	.060	1	.060	.206	.650	Accept H0	Not Significant
		Within Groups	130.887	446	.293				
		Total	130.947	447					
Logical Reasoning	**Grade Level**	Between Groups	4.020	1	4.020	**14.124	.000	Reject H0	**Significant**
		Within Groups	126.928	446	.285				
		Total	130.947	447					
Problem Solving	**Age**	Between Groups	.157	1	.157	.511	.475	Accept H0	Not Significant

		Within Groups	136.937	446	.307				
		Total	137.094	447					
Problem Solving	**Sex**	Between Groups	1.202	1	1.202	*3.947	.048	Reject H0	**Significant**
		Within Groups	135.892	446	.305				
		Total	137.094	447					
Problem Solving	**Academic Strand**	Between Groups	.381	1	.381	1.242	.266	Accept H0	Not Significant
		Within Groups	136.713	446	.307				
		Total	137.094	447					
Problem Solving	**Grade Level**	Between Groups	5.041	1	5.041	**17.027	.000	Reject H0	**Significant**
		Within Groups	132.053	446	.296				
		Total	137.094	447					

Based on the one-way ANOVA results presented in Table 5, the most significant differences in critical thinking (evidence evaluation, argument analysis, logical reasoning, problem-solving) were based on age, sex, academic strand, and grade level. Scores were not significantly different based on age ($F = 0.000$, $p = .993$), sex ($F = 0.923$, $p = .337$), or academic strand ($F = 0.143$, $p = .705$). However, there was a significant difference based on grade level ($F = 19.815$, $p < .001$). No significant differences were found based on age ($F = 0.051$, $p = .821$), sex ($F = 0.863$, $p = .353$), or academic strand ($F = 0.260$, $p = .611$) as related to argument analysis. Only grade level was significantly associated with logical reasoning ($F = 14.124$, $p < .001$), while no other variables (age, sex, academic strand) showed significant association. Both grade level ($F = 17.027$, $p < .001$) and sex ($F = 3.947$, $p = .048$) were significantly associated with problem-solving, while no significant association was found between critical thinking and academic strand or age.

Researchers identified common themes that support these findings based on current literature. According to Van Vo and Csapó (2020) and Yilmaz (2025), critical thinking and evidence-based reasoning can be best understood through inquiry-based learning, proper educational development, and structured instruction. According to Al-Ghadouni (2021) and Kyambade et al. (2025), both critical thinking and argumentation are significantly influenced by how individuals are taught rather than other personal details. Song et al. (2024) and Li et al. (2024) explain how reasoning is connected to educational and developmental elements. Additionally, Turhan (2020) and Kheloui et al. (2021) both state that no significant difference exists between sex and cognitive abilities. According to the OECD (2023), problem-solving, discussing with others, and using inquiry-based learning can all directly benefit cognitive development. Finally, Moraga-Pumarino et al. (2025) stated that sex-related differences in critical thinking might be related to how individuals are taught.

Considering these studies, researchers determined that grade level remains the most consistently linked variable among the critical thinking areas analyzed (logical reasoning, problem solving, evidence evaluation). Additionally, only sex is significantly linked to problem solving. Collectively, this demonstrates the need to use evidence-based, inclusive, and appropriately developed instruction to allow all individuals to improve their critical thinking.

5.4. Significant Relationship between the Extent of Teachers' Critical Media Literacy Implementation and the Learners' Levels of Civic Engagement and Critical Thinking Skills

Table 6: Test of Significant Relationship between the learners' levels of outcomes in civic engagement and critical thinking skills, and the extent of teachers' critical media literacy implementation

Implementation Dimension	Outcome Area	Related Factor	Correlation Coefficient	Description	p-value	Decision	Interpretation
Instructional Strategies	Civic Engagement	Community Participation	-.065	Very Low	.624	Accept H0	Not Significant
Instructional Strategies	Civic Engagement	Volunteer Involvement	-.021	Very Low	.882	Accept H0	Not Significant
Instructional Strategies	Civic Engagement	Advocacy Behavior	-.112	Very Low	.419	Accept H0	Not Significant
Instructional Strategies	Civic Engagement	Social Responsibility	-.024	Very Low	.863	Accept H0	Not Significant

Instructional Strategies	Critical Thinking Skills		Evidence Evaluation	-.133	Very Low	.338	Accept H0	Not Significant
Instructional Strategies	Critical Thinking Skills		Argument Analysis	-.112	Very Low	.419	Accept H0	Not Significant
Instructional Strategies	Critical Thinking Skills		Logical Reasoning	-.024	Very Low	.863	Accept H0	Not Significant
Instructional Strategies	Critical Thinking Skills		Problem Solving	-.133	Very Low	.338	Accept H0	Not Significant
Assessment Practices	Civic Engagement		Community Participation	-.070	Very Low	.615	Accept H0	Not Significant
Assessment Practices	Civic Engagement		Volunteer Involvement	-.003	Very Low	.982	Accept H0	Not Significant
Assessment Practices	Civic Engagement		Advocacy Behavior	-.038	Very Low	.785	Accept H0	Not Significant
Assessment Practices	Civic Engagement		Social Responsibility	-.067	Very Low	.632	Accept H0	Not Significant
Assessment Practices	Critical Thinking Skills		Evidence Evaluation	-.184	Very Low	.182	Accept H0	Not Significant
Assessment Practices	Critical Thinking Skills		Argument Analysis	-.038	Very Low	.785	Accept H0	Not Significant
Assessment Practices	Critical Thinking Skills		Logical Reasoning	-.067	Very Low	.632	Accept H0	Not Significant
Assessment Practices	Critical Thinking Skills		Problem Solving	-.184	Very Low	.182	Accept H0	Not Significant
Classroom Engagement	Civic Engagement		Community Participation	-.003	Very Low	.980	Accept H0	Not Significant
Classroom Engagement	Civic Engagement		Volunteer Involvement	.057	Very Low	.681	Accept H0	Not Significant
Classroom Engagement	Civic Engagement		Advocacy Behavior	-.005	Very Low	.971	Accept H0	Not Significant
Classroom Engagement	Civic Engagement		Social Responsibility	.040	Very Low	.776	Accept H0	Not Significant
Classroom Engagement	Critical Thinking Skills		Evidence Evaluation	-.049	Very Low	.723	Accept H0	Not Significant
Classroom Engagement	Critical Thinking Skills		Argument Analysis	-.005	Very Low	.971	Accept H0	Not Significant
Classroom Engagement	Critical Thinking Skills		Logical Reasoning	.040	Very Low	.776	Accept H0	Not Significant
Classroom Engagement	Critical Thinking Skills		Problem Solving	-.049	Very Low	.723	Accept H0	Not Significant
Resource Integration	Civic Engagement		Community Participation	-.197	Low	.152	Accept H0	Not Significant
Resource Integration	Civic Engagement		Volunteer Involvement	-.132	Very Low	.343	Accept H0	Not Significant
Resource Integration	Civic Engagement		Advocacy Behavior	-.198	Low	.152	Accept H0	Not Significant
Resource Integration	Civic Engagement		Social Responsibility	-.154	Very Low	.267	Accept H0	Not Significant
Resource Integration	Critical Thinking Skills		Evidence Evaluation	-.056	Very Low	.689	Accept H0	Not Significant
Resource Integration	Critical Thinking Skills		Argument Analysis	-.198	Low	.152	Accept H0	Not Significant
Resource Integration	Critical Thinking Skills		Logical Reasoning	-.154	Very Low	.267	Accept H0	Not Significant
Resource Integration	Critical Thinking Skills		Problem Solving	-.056	Very Low	.689	Accept H0	Not Significant

Note: *± 1.00 Perfect Correlation;* *± 0.80 - ± 0.99 Very High Correlation*
± 0.60 - ± 0.79 High Correlation *± 0.40 - ± 0.59 Moderate Correlation*
± 0.20 - ± 0.39 Low Correlation *± 0.01 - ± 0.19 Very Low Correlation*
0.00 No correlation

**Significant at p < 0.05*
***Significant at p < 0.01*

As outlined in Table 6, there is a relationship between teachers' use of Critical Media Literacy (CML) in instruction, assessment, engagement, and resources and learner critical thinking and civic engagement. Based on the results, there were all very weak relationships that were not statistically significant ($p > .05$). Because of this, there was not enough evidence to reject the null hypothesis. Regarding instruction, outcomes were weak and not significantly related. In assessment, there were primarily negatively related outcomes for both critical thinking ($r = -.038$ to $-.184$; $p = .182$ to $.982$) and civic engagement ($r = -.003$ to $-.070$). Concerning engagement, there were also very weak relationships ($r = -.049$ to $.057$). Finally, regarding resource use, there were also negative

relationships (r = −.056 to −.198; p = .152 to .689). Overall, according to this study, teachers' reported use of CML was not significantly related to learner critical thinking or civic engagement.

According to Kennedy et al. (2022) and OECD (2023), effective instruction requires proper teaching, length of instruction, teacher competency, integration with the curriculum, and how learners are assessed. Additionally, according to Eyal and Te'eni-Harari (2024), splitting up or providing short media literacy instruction does not ultimately have much of an impact. Furthermore, based on UNESCO (2021, 2023), individuals should teach media literacy thoroughly and assess learners in real-world settings. Other researchers, including McGrew (2024), Geers et al. (2020), and Evers et al. (2025), stated that implementing source evaluation, lateral reading, structured discussion, and inquiry-based learning can effectively foster critical thinking. Additionally, researchers like Chen et al. (2024) and Sariyatun and Abidin (2025) stated that explaining how to proceed and providing metacognitive assistance are essential. Finally, individuals like Ilten-Gee and Francom (2025) stated that by providing practical civic learning, collaborating with communities, and taking collective action, people can ultimately transform media literacy into civic engagement. Other researchers, including Al-Ghadouni (2021) and AERA (2024), stated that constant professional development is essential. Additionally, Kennedy et al. (2022) and Darling-Hammond et al. (2022), found that inquiry-based instruction is also helpful. Lastly, Barta et al. (2022) opined that because it is such a complicated topic, weak relationships may ultimately be due to measurement or contextual factors.

Overall, while this study found no significant relationship between CML and learners, this does not necessarily indicate that CML is not useful. The study is constrained to cross-sectional design and self-reported measures. The present study do not establish procedures to potential clusters of classrooms and schools. Rather, it likely demonstrates that its influence on learners can ultimately be based on several variables, including the extent of the teaching, how assessment aligns with teaching, whether individuals are properly trained, whether support is available, whether individuals have access to resources, and whether learners ultimately get the chance to engage in civic activities. Further research should be conducted in a classroom setting, over a longer period, and across various levels to better determine these connections and identify whether CML benefits learners' critical thinking and civic engagement.

6. Conclusion

There was no difference by age, but there were differences by academic strand, sex, and grade level. Four types of civic engagement differed by grade level, indicating the need for civic education that is appropriate for all learners. The study reported weak, statistically nonsignificant relationships between teachers' CML implementation and learners' critical thinking and civic engagement. Accepting these null hypotheses does not indicate that CML is ineffective; it only suggests that learners, educational settings, or teaching methods may influence its effectiveness. To further incorporate CML into Social Studies, instruction should also focus on promoting reflection, analyzing critical media, and allowing learners to engage in real-world civic activities. To further explore how CML connects to critical thinking and civic engagement, additional studies are needed, such as longitudinal, experimental, and mixed-method studies.

7. Recommendations

To implement Critical Media Literacy, school administrators should build a culture that supports CML, offer professional development to teach project-based learning and practical media literacy, and include Critical Media Literacy in overall development plans. Policymakers and curriculum developers should expand the Senior High School media literacy curriculum by including hands-on Critical Media Literacy across strands and grades to ultimately increase learners' critical thinking and civic engagement. By incorporating real-world tasks like analyzing evidence, examining authentic media, and engaging in community projects, educators can directly apply the learned material in real life. Additionally, parents could share media in their conversations, advocate for being a responsible digital citizen, and urge engagement in the community. Learners can use critical thinking to analyze social media and join organizations that will ultimately promote civic responsibility and sound decision-making. Researchers should conduct longitudinal research in a classroom setting using various populations to assess learner learning through performance.

8. Limitations and Implications

The limitations of this study include its cross-sectional and descriptive-correlational design. It also relies on self-reported responses from purposively drawn schools from one division. The learner-teacher cluster-based analysis on CML implementation and learner-level outcomes was incomplete. Failure to adjust for school and classroom clustering also limits how the findings can be interpreted. The instruments measured respondents' perceptions and feelings, not actual civic engagement or performance-based critical thinking. These limitations could be considered in subsequent studies.

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