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A Mixed Method Investigation of Student Agency and Civic Media Literacy Through Journalistic Learning

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ABSTRACT

This study investigated a journalistic learning approach in a high school English class within a civic media literacies framework toward civic intentionality. Informed by social-cognitive theory, this study focused on learning if and how the student experience developed (a) motivational factors for student writing, including self-efficacy, belonging, writing anxiety, agentic engagement, metacognitive self-regulation, flow in writing, and intrinsic writing motivation, and (b) cognitive factors for writing, including critical thinking and digital media literacy. The sequential mixed method study used correlations, pre- to post-program change analysis, and the triangulation of qualitative thematic analyses of student focus group and teacher interview data. Results supported most of the expected relationships, suggesting the experience likely contributed to a positive shift in motivational and cognitive factors for writing. Qualitative data highlighted the most impactful parts of the journalistic learning experience, such as interviewing real-world experts for their stories, that increased students' interest and motivation in writing about real-world issues. The mixed method results build an integrated narrative of students' agentic, cognitive, and metacognitive development in journalistic skills, reinforcing the importance of interest-driven learning opportunities in writing and autonomy-support in skill development, such as in writing, that brings anxiety to many students.

Introduction

> I definitely liked being able to write about something that [I am] very passionate about, and [I] have strong feelings about. It made it feel like someone's listening. (High school student engaged in journalistic writing)

Two issues have converged in recent decades to make writing skill development in high school challenging for students. The first issue is insufficient, purposeful writing instruction that leaves most students under-resourced. U.S. students generally fall far short of grade-level proficiency in writing (National Center for Education Statistics, 2012; Salahu-Din et al., 2008), in part, because writing is less prioritized than reading and STEM (Puranik et al., 2017). However, developing students' motivation, skill, and metacognition in writing is essential for effectively communicating ideas and perspectives (Graham et al., 2013), and writing provides meaningful connection to the world for young people, boosting quality of life (Graham & Perin, 2007).

The second issue is a lack of effective media literacy development for students (Stanford History Education Group, 2016) to navigate the ever-growing complexity of today's information environment (Boyd, 2017; Mihailidis, 2018). Discerning credible sources of information to incorporate in writing, where extremist and reductionist political groups are legitimated alongside mainstream credible news outlets, is a daunting task. As a case in point, the reach of politicized

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platforms, like Breitbart News, has surpassed mainstream news sources, such as newspapers and television stations (Hylton, 2017). When faced with distinguishing between authentic news stories and advertisements or identifying clues about the trustworthiness of information posted online, recent research suggests U.S. students' literacy skills are underdeveloped (Stanford History Education Group, 2016). As students engage in various expository writing tasks in this complex information ecology, critical thinking and digital media literacy skills are essential in their development as agentic writers.

This explanatory mixed-method study investigates an approach that aims to address these two interrelated issues through journalistic learning to develop student literacy and agency toward civic intentionality in writing (Mihailidis, 2018). Mihailidis (2018) proposed that contemporary approaches to civic media literacy must address the new norms of digital culture and the complexity of the information landscape through intentional civic engagement for understanding and community dialog around social issues. This study posits that student creation of original journalism is an optimal pathway for civic intentionality and careful and critical thinking needed about the media students consume. Following Bandura's (2018) social-cognitive theory for human agency, this study looks closely at one approach to journalistic learning (Madison,2015), targeting both agency in writing and students' civic media literacy.

Theoretical framework: Social-cognitive theory for civic intentionality in writing

Past research illustrates how journalistic activities with support from adult role models can socialize students to the norms of journalism, enhance students' love of learning through interest-driven investigations, and develop positive relationships to writing through a process-oriented and iterative approach (Pacheco, 2018). The journalistic learning approach presented in this study presents a novel approach to English instruction in middle and high school that targets students' agency in writing, advocacy for issues they care about, voice to share their views publicly, and reflective capacity for personal growth (see Table 1 for component descriptions; Guldin et al., 2021; Madison et al., 2019; Madison et al., 2021). In this journalistic learning approach, English language arts educators learn to guide students through the journalistic process to identify issues of concern, conduct research, and engage community experts in live interviews to write high-quality journalistic stories for authentic audiences. Students learn to connect with primary sources with deep experience in their area of interest. Teachers guide students through practice in media literacy skills to evaluate the credibility of sources, oral communication skills to interview community members, and note-taking skills to synthesize their findings in original articles. Students build a website to publish their articles, demonstrating commitment to their work and engaging their broader community in dialog (Madison, 2015; Magnifico, 2010). The sections below describe how each of these designed elements of the journalistic learning approach are connected to extensive theory and research on students' social, cognitive, and motivational experience in writing in school, starting with the central importance of self-efficacy.

Centering writing self-efficacy

Bandura (1997) defined a person's self-efficacy as their prospective self-belief and confidence that they can be successful in a domain-specific task, such as writing. Bandura proposed self-efficacy as the foundation of a person's agency because those beliefs shape motivation, affect, and action. Not surprisingly, research has found that students' more general academic self-efficacy through the transition from middle to high school protects them from academic disengagement (Anderson et al., 2019). Results from two systematic reviews suggest that students' self-efficacy is highly important to writing skill development, specifically, and responds to various strategies (Camacho et al., 2021; Klassen, 2002). For instance, Lee and Enciso (2017) found that the combination of drama and

Table 1. Journalistic Learning (JL) components defined, operationalized, and linked to writing for civic intentionality and the social-cognitive process model in adolescence.

JL Component	Defined and Operationalized	Connections to Social-Cognitive Process Model & Writing for Civic Intentionality
Voice	Student voice refers to interest-driven topic selection, a focus on social justice issues that matter in their lives and communities, cultural responsiveness to their lived experiences, and vocalization of students' perspectives and opinions.	Student expression and creativity in learning activities, such as writing, may play an important role in healthy identity development during adolescence (Barbot & Heuser, 2017). Students critical thinking and civic media literacy are connected to their voice in how they form, evaluate, and express their opinions and those of others. Students develop intrinsic motivation and find greater flow in writing because they believe their voice matters.
Agency	Student agency builds on self-beliefs, self-regulation, and capabilities to be successful in all parts of journalistic writing. They feel alignment between their personal values and the task. They hold a growth mindset toward challenge. They believe their voice can play a positive influence in the world.	Agentic engagement (Reeve, 2013) and autonomy support (Patall et al., 2019) are key factors in learning during adolescent development. Research indicates both play an important role in writing skill development (Camacho et al., 2021). JL asks students for agentive stancetaking regarding an issue they care about (Jeffery & Wilcox, 2014), and students develop writing self-efficacy, agentic engagement, and ways to manage writing anxiety as they face unfamiliar challenges throughout JL.
Publication	Publication is the creation of content across multiple revisions shared with an audience beyond the teacher. Authentic audiences cultivate more ownership in writing and more opportunities for writing to make an impact.	Relational trust with and support from peers toward a sense of belonging (Gray et al., 2018) may be pivotal in a journalistic learning experience. An authentic audience amplifies the purpose and value in writing (Magnifico, 2010), but students need a sense of belonging to feel safe in expressing themselves.
Reflection	Reflection includes recognition of growth and pride in successes, process-oriented strategy development and refinement, critical thinking about how opinions and perspectives may have changed throughout the inquiry, and personal growth in managing challenges and risks and developing as a writer.	Decades of research indicates that metacognition is key in adolescent development, learning, and motivation and build on reflection throughout the learning process (Beach et al. 2020). Some programs focused on metacognitive development use reflective writing as an essential practice. In JL, metacognitive self-regulation develops across the program as students learn new strategies and reflect on how they work in their learning.

story-writing improved students' self-efficacy in writing. This integrated approach may shape a motivationally supportive classroom environment because writing is the means to other learning goals, allowing students' self-efficacy to develop more naturally (Lam & Law, 2007).

In addition to self-efficacy, Bandura (2018) proposed that personal agency builds from our sense of control over what we do and how we value what we do. Bandura's (2018) social-cognitive model of human agency posits that *proxy* agency is important when a person lacks control over social or institutional practices and conditions that affect everyday life. Proxy agency is exercised by influencing others and also experienced vicariously through the success and strategies modeled by others. For students, proxy agency can take shape from the autonomy support that teachers offer (Patall et al., 2019). Similarly, students experience *collective* agency by pursuing new challenges and navigating struggles successfully in community with others. Students situated in schools within social and political climates that are outside of their control may find few opportunities in learning to exercise personal, proxy, or collective agency in issues that matter to them (Guldin et al., 2021). One potential of this journalistic learning approach is to connect students' engagement and personal agency in academic writing to this proxy and collective agency on social issues they care about. In this way, student agency sets the conditions for civic intentionality to take shape.

A social-cognitive process model for journalistic learning

Building on that social-cognitive backdrop of self-efficacy and agency, we propose a process model for journalistic learning depicted in Figure 1, which includes affective, metacognitive, and motivational factors that align with students' personal agency in writing toward the social and collective agency and civic intentionality to influence others with their writing. Notably, this model does not

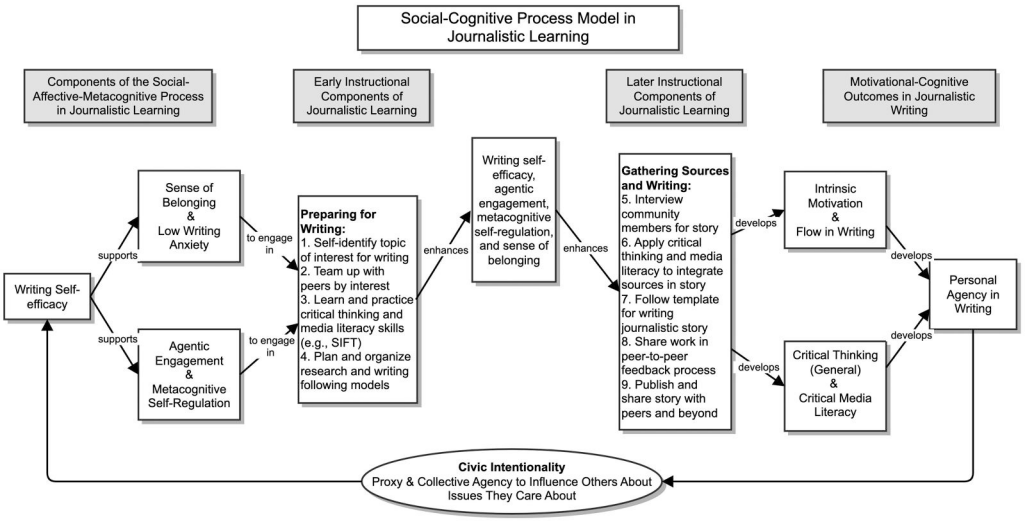


Figure 1. The proposed process model investigated in this study builds on a Social-Cognitive Theory perspective to understand how students engage in and develop through a journalistic learning experience as agentic writers toward civic intentionality.

include external factors, such as the disruption of the COVID-19 pandemic, that could likely play a role in how students experience the journalistic learning approach and how this process model plays out. Our proposed social-cognitive model aims to provide a starting place for understanding distinct aspects of students' agency to develop as writers toward civic intentionality. These factors support students to engage in critical instructional components of journalistic learning listed in Figure 1 and are investigated thoroughly in the qualitative strand of this mixed method study. The following sections describe the components of the process model depicted.

Sense of belonging and writing anxiety

Findings from developmental neuroscience and educational psychology (e.g., self-determination theory) suggest that a young person's sense of belonging, relatedness, and social acceptance are paramount to motivation and engagement in school (Dahl et al., 2018; Deci & Ryan, 2011; Gray et al., 2018; Patall et al., 2018). Our social-cognitive process model for journalistic learning suggests that students' writing self-efficacy will support a sense of belonging in English Language Arts class because students are expected to share their writing for peer-to-peer critique, receive feedback from teachers, and learn from each other as a community of writers. Students' affect toward writing, such as their writing anxiety, also fits within this social aspect of writing and feedback in the classroom. Writing anxiety is displayed through nervous tension, preoccupation, and procrastination and consists of students' dispositional attitudes toward writing developed across time as well as their situational attitude and affective response to a specific task (Martinez et al., 2011). Students with low writing self-efficacy may also experience a lower sense of belonging and higher writing anxiety, which could be barriers to engagement in journalistic learning practices. Given the collaborative and community-engaged aspects of journalistic learning and the expectations to publish the final product (Madison et al., 2019), our process model posits that this web of critical social and affective components are precursors to engagement.

Agentic engagement and metacognition

Shaped by writing self-efficacy, students' personal agency in writing will manifest in agentic engagement in their learning—knowing what they need and asking for it to create a

motivationally-supportive environment (Reeve, 2013). As Patall et al. (2019) and Reeve (2013) found, the agentic aspects of student engagement played a lead role in fostering the cognitive, emotional, and behavioral forms of engagement—each necessary for the demands of journalistic learning. Relatedly, students' agency in writing is not limited to their self-beliefs for success (i.e., self-efficacy) but also relies on their metacognitive knowledge and skill to self-regulate and be strategic—additional types of *forethought*—which decades of research indicate is critical to academic motivation and performance (Bandura, 2018; Beach et al., 2020). In the process model in Figure 1, we would expect that writing self-efficacy, agentic engagement, and metacognitive self-regulation would be enhanced by the early stages of students' journalistic learning experience given the careful scaffolding, skill development, and practice and the explicit strategies taught for organization and planning in writing. Additionally, sense of belonging should increase as students are forming new bonds with their writing partners. However, writing anxiety may not be affected at this stage because students may be worrying about how they will bring the sources and writing components together to complete an original story. In this way, as Figure 1 illustrates, these factors and the program experience likely have a bidirectional relationship.

Cognitive components: Civic media literacy and critical thinking

Writing in journalistic learning requires critical thinking and media literacy. Those skills are key to discern the credibility of sources and produce original journalism with a careful, critical, and balanced consideration of multiple perspectives, including self-awareness of one's own bias. In its 2022 Media Education policy statement, the National Council for Teachers of English (NCTE) noted, "we no longer live in a print-dominated, text only world." Stating further, "the definition of literacy is expanding, and English language arts teachers at all levels must help learners develop the knowledge, skills, and competencies need for life in an increasingly digital and mediated world" (NCTE, 2022b). Media literacy has been conceptualized broadly as the ability to access, analyze, evaluate, and create across various communication forms (Aufderheide, 1993). More recently, the *Center for Media Literacy*[1] promoted five key media literacy considerations when consuming information from media sources: (a) the message creators; (b) how attention is captured; (c) how the message can be interpreted; (d) values represented or omitted; and (e) the underlying purpose.

The Stanford History Education Group (2016) found high school students' media literacy skills to evaluate the quality and trustworthiness of information to be "bleak" (p. 4). The disciplinary lens of journalism requires regular practice in this aspect of digital media literacy to ensure source credibility and to produce a balanced understanding of complex social issues (Madison et al., 2019; Madison et al., 2021). The journalistic learning curriculum focuses consistently on these media literacy skills, making critical thinking and evaluating media sources a vital outcome to support students' agency and success in journalistic learning.

Critical thinking, more generally, encapsulates the ability to analyze, evaluate, synthesize, and make inferences based on inductive and deductive reasoning and to metacognitively monitor this process continuously while encountering new information and perspectives on a topic (Halpern, 1998). Developmental models for critical thinking illustrate the need for exposure to and practice with specific strategies in different domains (Kuhn, 1999; Lai, 2011; Lench et al., 2015), such as evaluating information sources online for research and writing. Scholars urge practitioners to provide explicit constructivist, collaborative, and student-centered instruction to develop critical thinking (Lai, 2011). Journalistic writing focuses on critical thinking within the context of students' forming and evaluating their opinions and the opinions and media sources of others,

[1]From MediaLitKit created by the Center for Media Literacy. Source: https://www.medialit.org/reading-room/five-key-questions-form-foundation-media-inquiry.

weighing different perspectives on issues, and listening closely to what others share (Madison et al., 2019). In this way, this cognitive skill is related closely to social-cognitive theory.

Relatedly, journalistic learning also draws on principles from epistemic reflexivity for both teachers and students (Lunn Brownlee et al., 2022). Epistemic reflexivity incorporates the pursuit of truth in knowledge and understanding, the capacity to evaluate accurate and informed information and perspectives (including our own), and the development of reliable processes to achieve those aims and ideals in knowledge development. For teachers, journalistic learning can be a pathway to consider and invite diverse points of view into the classroom and actively connect students to cultural interests and ways of being and thinking that are both familiar and unfamiliar to them.

Intrinsic motivation and flow in writing

In addition to enhancing media literacy and critical thinking, interest-driven journalistic learning should also contribute to students' intrinsic motivation to write and their deep engagement, or *flow experience,* in writing. Intrinsic motivation is proposed by self-determination theory (Deci & Ryan, 2011) to encapsulate the internal sources of an individual's drive that are key to sustained engagement. Relatedly, flow experiences are characterized by feeling absorbed with deep concentration through a balance of interest, challenge, and skill in a task (Csikszentmihalyi & Rathunde, 1993). Critical thinking and media literacy represent cognitive factors for *how* students engage in journalistic writing for civic intentionality, intrinsic enjoyment to write and flow experiences in writing represent *how* students *feel* when motivated to take on the challenge of journalistic writing. As the self-reinforcing process model in Figure 1 depicts, the cognitive, affective, and motivational factors described will add to students' *personal* agency in writing through greater self-efficacy and agentic engagement and to the *proxy* and *collective* agentic beliefs across a class that they can influence others about meaningful issues through their writing.

A real-world illustration of a student's experience in the classroom can help clarify the connection between all of these factors in the process model. Let's consider a student beginning their journalistic learning experience to research and write about the causes of homelessness with limited writing self-efficacy and metacognitive self-regulation, and moderate levels of writing anxiety along with some established sense of belonging and sense of agency to ask for help. That student might find they can contribute their skills and confidence to interview a community member in reciprocity with their partners' writing and organization skills. They confront a variety of media sources with varying levels of credibility and use their new training to detect bias and identify the strongest sources to incorporate in their article.

They can follow and keep up with the well-structured research and writing process and receive feedback from their peers and teacher for necessary revisions. They recognize their emotional response of mild anxiety to manage the revisions and observe their inclination to avoid getting started. Their writing partners and their teacher support this metacognitive self-regulation as they learn and apply new time management and organizational skills to work toward their deadlines. As they continue to improve their article, they learn new information about their topic and this intrinsic interest motivates them further, helping them find their flow of deep concentration. They finish their project with new skills to think critically about complex ideas, recognize their own bias, and analyze the credibility of sources they encounter. This sense of agency is bolstered by others' appreciation of their work and new expertise about their topic, which, in turn, feeds their writing self-efficacy.

The present study

In this explanatory mixed method study, we sought to understand (a) how the components of the proposed process model appear to function cross-sectionally and dynamically across

engagement in journalistic learning using quantitative data sources and (b) how the descriptive reflections of students and their teacher (qualitative data) complement or contrast with these quantitative findings. Our investigation followed these research questions:

1. To what extent do the social-cognitive factors both supporting journalistic writing and developed by the experience demonstrate cross-sectional relationships (quantitative)?
2. To what extent do factors related to students' agency, metacognition, anxiety, motivation, and critical thinking change from pre- and post-assessment (quantitative)?
3. How did students reflect on their experience in the different stages of the journalistic learning process (qualitative)?
4. How do teacher observations of students' engagement and development in the journalistic learning process complement or contrast with findings from these other data sources (qualitative)?

Materials and methods

We used an explanatory sequential mixed method design (Creswell & Plano-Clark, 2018), emphasizing the quantitative and qualitative data equally (see Figure 2). Quantitative data collection and analyses focused on between-factor correlations and within-subjects analysis of variance in factors from pre- to post-program assessment data. Phase 2 used thematic analyses of students' focus group and teacher interview data to contextualize quantitative findings of students' development and experience through journalistic learning.

Our sequential explanatory mixed method approach (Creswell & Plano-Clark, 2018) followed several steps and aims. The first step was to conduct a preliminary evaluation of the proposed social-cognitive process model using cross-sectional data before students engaged with journalistic learning. The second step was to evaluate pre- to post-program change in factors drawn from the process model presented earlier, including factors related to student agency, metacognition, affect, critical thinking, and media literacy. The third step was to analyze how students described their experience in each instructional component of journalistic learning through post-program focus group transcripts and to integrate those findings with the quantitative results. The fourth step was to analyze the teachers' interview data and integrate those results with the student perspective (see Figure 2). We believe the teachers' perspective helps to triangulate the student perspective with additional insights that might contrast and/or complement the students' point of view.

This sequential mixed method approach outlined in Figure 2 had several practical and investigative benefits. First, given the challenges of conducting research during the COVID-19 pandemic, this design allowed us to focus intensively on one teacher and her students without attempting to conduct a group comparison research design. Second, this design was less intensive on our school partner than a quasi-experimental or experimental design during a high-stress period. Third, the triangulation of quantitative and qualitative data and student and teacher perspectives offered richer and more contextualized descriptions of the student experience, highlighting the most prescient impressions that arose for students and their teacher. Fourth, the integrated findings from these data sources elaborate on the proposed social-cognitive process model in ways that can guide future directions in practice and research.

Sample

The student sample included $N = 50$ Grade 11 students from two Language Arts sections in a high school of approximately 1,000 students in the Pacific Northwest (demographic characteristics are described in Table 2). The school was located in a suburban locale approximately 10 miles outside of a large metropolitan city. The schools' demographic data for that year indicated 24% were English language learners at some point in their education, more than 95% were eligible for

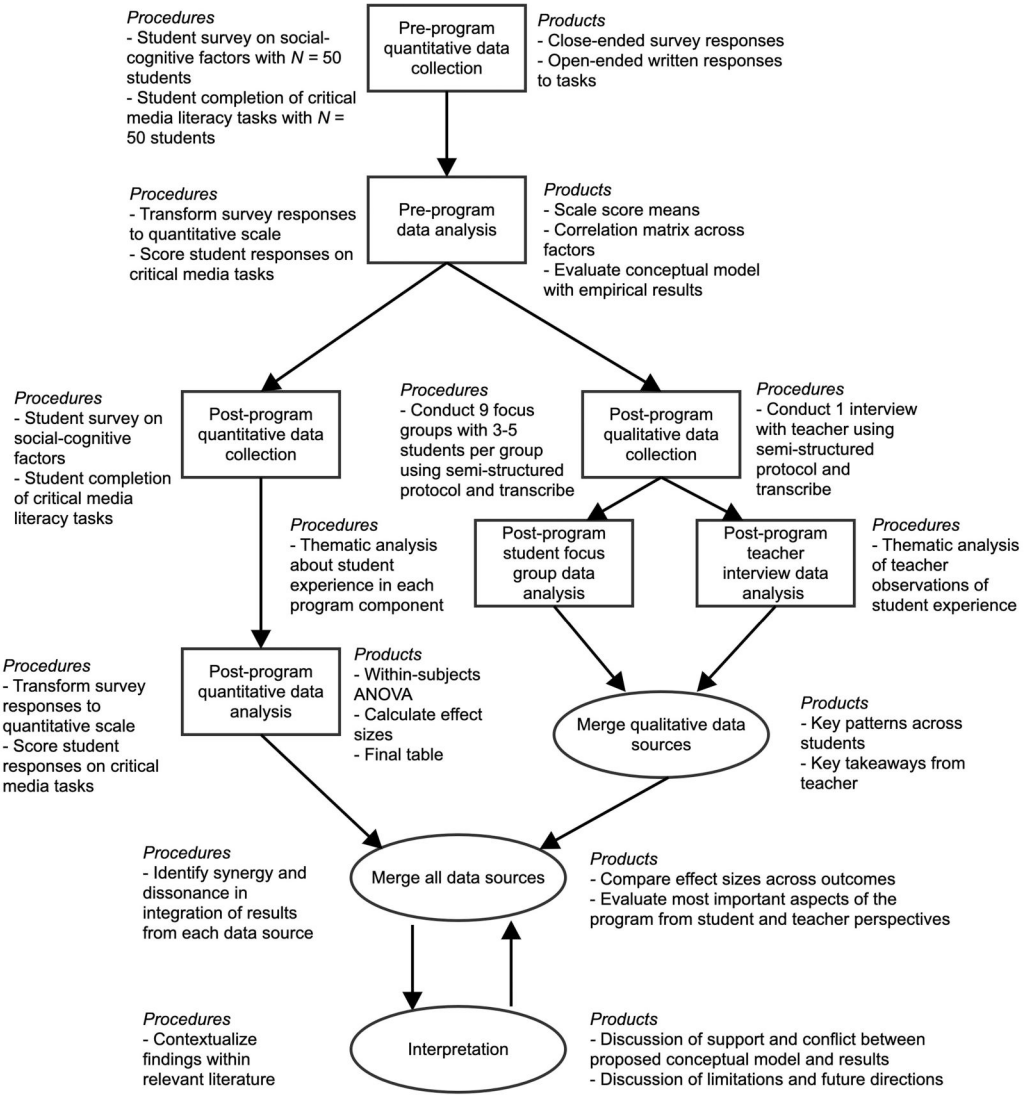


Figure 2. The sequential explanatory mixed method approach taken in this study.

free and reduced meals, and 11% had disabilities. Importantly, 92% of students at the school were on-track to graduate compared with a statewide average of 83%, which signifies students were generally academically well-prepared. Though student-level data about those characteristics were not collected, the teacher confirmed she had approximately eight students receiving special education, ten English language development students, and two students on a modified diploma. She also indicated that most students in these sections experienced economic marginalization, in line with the overall school percentage. Additionally, these classes were general education English sections and not honors or advanced placement. These descriptive characteristics taken together indicate there was diversity in economic privilege, learning needs, and English language development even though this classroom consisted of mostly white students (82%). Generalization of results beyond this sample should include consideration of how these characteristics compare to other populations. The high school English Language Arts teacher identified as female and white with 18 years of teaching experience.

Table 2. Student self-identified demographic characteristics (Grade 11).

Characteristic	Percentages
Gender identification	
Female	40.0%
Male	50.0%
Gender non-conforming/Queer	8.0%
Preferred not to respond	2.0%
Hispanic	4.2%
Preferred not to respond	4.0%
Races students identified with (some chose multiple)	
American Indian/Alaskan Native	2.0%
Asian	12.0%
Black	4.0%
Native Hawaiian	2.0%
White	82.0%
Not listed	10.0%

Data collection

Pre-program survey data were collected in a single class period in January 2022, and post-program survey data were collected in early June 2022. Student focus groups took place in person, with groups of 3–4 students selected randomly by the teacher from those willing to participate. Approximately half of the student sample joined a focus group. One researcher conducted all focus groups across two days (30 minutes each). The questions (see Supplementary Appendix) asked students about specific aspects of journalistic learning. A different researcher conducted the teacher interview regarding implementation challenges and successes and observations about the student experience.

Procedures

Previous research on journalistic learning investigated an intensive on-site teacher coaching approach (Madison et al., 2019). This current study adapted a new networked professional learning model (Networked Learning Editorial Collective, 2021), forming a *community of practice* (Wenger, 1998) that offered the geographically dispersed teachers wraparound support via a custom-built course management system (CMS) with a complete self-guided 10-week instructional scope and sequence. The participating teacher in this study engaged in eight hours of self-paced online video training, responded to prompts, and engaged in discussion forums with other teachers (see Supplementary Appendix). This Effective Communicators Course training program was designed and developed by experts at the Journalistic Learning Initiative. Developers built lessons for teachers to adapt and enact in their classroom, and each lesson plan included a short podcast to support teachers' preparation to deliver the material with accompanying slideshows, worksheets, and assessment tools for teaching.

Previous participants served as exemplars and mentors, answering questions, sharing insights, and offering strategies through discussion posts. Teachers prepared for each week's lessons by reviewing the instructional video about the key concepts and lessons and any additional material, such as tips for helping students find interviewees or organize their data. Teachers could contact the program facilitator to review material and strategize 1-on-1 when needed. Teachers with little prior experience in journalism deepened their self-efficacy through this self-directed process (see Madison et al., 2024 for more details). In those ways, the PD program reflected principles from social-cognitive theory carried into student learning in the classroom. Program providers also convened Zoom sessions and held office hours for small group and one-on-one virtual coaching. The teacher received a $1,000 stipend to complete the training, implementation, and research activities

Table 3. The components and curricular objectives for the scope and sequence of the effective communicators course.

Components	Details
Implementation	• Teachers receive training and supports to implement 45-day standards-aligned course in English Language Arts or in a stand-alone elective • Students identify meaningful topics and issues of concern • Students identify, invite, and interview community members with expertise or important perspectives on the topics they select • Students write, edit, revise, and publish original articles
Scope & Sequence Focus	• Building character: Learning ethical frameworks to guide research and writing choices • Media literacy: Interpreting and understanding media influences, including how to recognize bias • Information gathering: Distinguishing evidence-based media from advertising, opinion, and advocacy • Interview skills: How to develop rapport, ask deeper questions, and produce follow-up questions • Speaking to communicate: Understanding the power of language and in-person inquiry • Writing with clarity: Concise writing for an audience with attention to tone and clarity • Social media: Responsible use to promote work • Publishing: Sharing discoveries and multiple perspectives with authentic audiences

across 6–8 months of preparation and implementation of the Effective Communicators Course outlined in Table 3 (more details about the course are in Supplementary Appendix Tables 1 and 2).

Quantitative survey measures and data

The survey protocol included extant, validated measures of various constructs reflected in the model in Figure 1, based on undergirding motivational principles of self-determination theory (Deci & Ryan, 2011) and social-cognitive theory (Bandura, 1997). We used the Motivated Strategies for Learning Questionnaire (Pintrich & De Groot, 1990) with a small adjustment for students to focus on writing for the following subscales (a) *intrinsic motivation for writing* (4 items), (b) *self-efficacy for writing* (5 items), (c) *general critical thinking* (7 items), (d) *writing anxiety* (4 items), and (e) *metacognitive self-regulation* (6 items). We used the five-item questionnaire developed and validated by Reeve (2013) to measure students' agentic engagement in class. To assess the degree to which students reached a state of flow in their writing, we used four items from an extant scale (Anderson, 2024). Additionally, we used five items from the sense of belonging scale (Anderson-Butcher & Conroy, 2002). We used the mean score for each scale in analyses.

We used the *Home Page Analysis* and *Evaluating Evidence* tasks from the Stanford History Education Group's (2016) white paper, *Evaluating information: The Cornerstone of civic online reasoning*. The home page analysis task asks students to identify advertisements versus real news stories on a news website. The evaluating information task asks students whether to trust a photograph and associated caption posted on a photo-sharing website. We modified each these tasks with new advertisements and images to use for the post-assessment and used a mean media literacy score from both tasks rated by two researchers. The survey and tasks for the pre-assessment took students an average of 34 minutes to complete.

Qualitative focus group and interview protocol and data

The high school ELA teacher completed an interview with one author, who coded the transcript by a priori themes, which came directly from the interview protocol. Two coders collaboratively designed *a priori* codes from the discrete sections in the focus group protocol for student focus group data. In addition, where applicable, themes from the quantitative student survey were included to highlight connections between the two methods. Transcripts were divided between

coders, and one transcript was coded by both coders and reviewed for agreement to ensure consistency in the coding system.

Mixed method analytic approach

To avoid bias in either the quantitative or qualitative analyses, the first author analyzed the quantitative student survey data and the third author and a research assistant analyzed the qualitative student focus group data. After these data were integrated, the first author analyzed the teacher interview data further to contextualize the mixed method findings from the student perspective. The second and fourth authors, who were primary authors of the journalistic learning curriculum and teacher training, did not participate in data collection or analyses. The first author and third author collaboratively integrated the findings across analytic strands to identify complementary and contrasting components and alternative hypotheses to refine the process model and our understanding of student agency in development (Maxwell, 2010).

Quantitative analyses

We used bivariate Pearson correlation statistics and within-subjects analysis of variance (Pedhazur & Schmeklin, 1991) to respond to Research Questions 1 and 2. We report effect sizes, descriptive statistics, and Cronbach's alpha internal consistency in the results. Limited by a small sample without a comparison group, effect sizes provided an essential indicator of the robustness of changes detected. With this small sample in mind, we chose to interpret small effects that reached the alpha level of .10. We included the within-subject effect size for correlations ($r = 10$ is small; $r = .30$ is medium; $r = .50$ is large) and Cohen's d for each statistically significant change detected ($d = .20$ is small, $d = .50$ is medium, and $d = .80$ is large; Cohen, 1992).

Qualitative analyses

We completed thematic analyses of students' post-program focus group responses following the semi-structured protocol to address Research Questions 3 and 4 by coding how students felt before and after the experience about specific aspects of journalistic learning (e.g., researching, writing, interviewing, etc.). The third author and a research assistant coded one student focus group transcript and discussed divergence in their coding structure before splitting up the remaining transcripts. After coding, the third author analyzed the coded data to write the significant themes from each section of the focus group protocol identifying areas and reasons for agreement and disagreement among students, drawing out representative quotes with thick descriptions in students' own voices (Miles et al., 2019). Researchers met to integrate the data and discuss identified patterns across the data sources of the student perspective. Next, the first author coded the teacher interview transcript and analyzed the coded data to contextualize the merged student findings and triangulate those data from another perspective. The first author took primary responsibility for doing the final synthesis across analyses from each method and data source to inform the refinement of the process model, integrate it with the literature, and identify future directions.

Researcher positionalities

The choice for a mixed methods approach in this study stems from a shared pragmatist philosophical approach (Anderson, 2018; Dewey, 1999; James, 1907) among the authors to studying and understanding the phenomena of human development as inseparable from our own agency and the agency of our research participants in the world. Thus, we believe the social-cognitive perspective guiding this work necessarily draws on the epistemological and methodological

frameworks from quantitative and qualitative traditions. Moreover, the central aim of this study was to understand the development of student agency toward civic intentionality through engagement in topics that often expose unjust institutional and social conditions. That context aligns well with the perspectives proposed by proponents of *QuantCrit* (Garcia et al., 2018) highlighting the limitations of most quantitative methods to value the centrality of experiential knowledge and transdisciplinary perspectives. Our mixed method approach aims to enhance the work accomplished by each method toward greater understanding and critical analyses of learning conditions for students' holistic development. The self-reflexivity driven by our author identities is critical in this pursuit—the following paragraph describes these identities.

Each of the authors reflected on their experiences and identities and how they might influence the research process, particularly the coding and interpretation of student responses. The first author identifies as non-Hispanic White and male with some teaching experience at the graduate level. The second author identifies as Black and male with teaching experience at the undergraduate and graduate levels. The third and fourth authors identify as White and female with direct K-12 teaching experience in U.S. schools. All authors are highly educated, and each identifies as middle- to upper-middle-class, which means our lived experiences and perspectives on classroom teaching and learning are likely different than the students included in this study.

All authors have collaborated extensively with teachers in the past through various professional learning programs or as colleagues in the classroom. As such, each carries a practitioner-scholar identity that values the scholarly and practical aims and implications of this work in balance with a solid commitment to supporting teachers and the students they nurture. In this study, the first and third authors served as supporting researchers rather than as internal facilitators in the program and took responsibility for all data collection and analyses. To avoid inserting any bias into the interpretations of the results or triggering reflexivity of study participants, the internal designers and facilitators of the program—the second and fourth authors—supported the design and writing of other aspects of the study, including the final interpretation of findings regarding implications for practice and future directions of the work. The close contact that the fourth author had with the teacher, for instance, throughout training and program implementation, provided a critical lens to contextualize the results within the timing and conditions of the study. We believe these identities and the self-reflexivity carried throughout the study design, data analyses, and interpretation of results within a pragmatic mixed methods approach are strengths of this work.

Results

The results supported some of the conceptualized relationships in the model in Figure 1. They generated insights into the process of students' development of agency in journalistic learning toward writing for civic intentionality. Student focus group and teacher interview data provided important context about how the journalistic learning experience reflects and builds on the proposed social-cognitive model. These results are limited by the lack of a comparison group and a small sample of students within a single school, so results are described within this narrowed scope. Results below are organized by each research question within the two methodological approaches, followed by an integration across mixed methods and data sources.

Research Question 1: Correlations across factors

Detailed in Table 4, writing self-efficacy related to belonging, writing anxiety, and agentic engagement in the expected directions at medium to large effect size correlations. Self-efficacy also related to flow in writing, intrinsic motivation, and critical thinking at medium to large effect size correlations. However, writing self-efficacy did not correlate with metacognitive self-regulation or

Table 4. Correlations across variables.

	1	2	3	4	5	6	7	8	9
1. Writing self-efficacy	1.00								
2. Belonging	.31*	1.00							
3. Writing anxiety	−.42**	.42**	1.00						
4. Agentic engagement	.41**	.15	−.07	1.00					
5. Metacognitive self-reg	.11	.13	.17	.58**	1.00				
6. Flow in writing	.27†	.16	.05	.54**	.42**	1.00			
7. Intrinsic writing motivation	.41**	.05	−.08	.33*	.24†	.60**	1.00		
8. Critical thinking	.51**	.13	.16	.41**	.50**	.55**	.56**	1.00	
9. Digital media literacy	−.11	−.16	.11	.15	−.03	.18	.12	.19	1.00

Notes.
†$p < .10$,
*$p < .05$,
**$p < .01$

Table 5. Student survey and assessment results from non-experimental research design of JL student intervention.

Perceptions, Self-beliefs, and Media Literacy	Period	∝	Mean (SD)	*p*-value	Cohen's *d*
Self-efficacy for writing	Pretest	0.85	4.20 (0.86)	.065	0.22
	Posttest	0.82	4.37 (0.71)†		
Sense of belonging	Pretest	0.92	4.95 (0.89)	.999	0.00
	Posttest	0.90	4.95 (0.83)		
Writing anxiety	Pretest	0.88	2.98 (1.19)	.014	−0.31
	Posttest	0.87	3.37 (1.31)*		
Agentic engagement	Pretest	0.84	3.98 (0.97)	.006	0.34
	Posttest	0.86	4.32 (1.01)*		
Metacognitive self-regulation	Pretest	0.79	3.65 (0.82)	.041	0.26
	Posttest	0.82	3.87 (0.85)*		
Flow in writing	Pretest	0.90	3.40 (1.19)	.681	0.04
	Posttest	0.89	3.35 (1.24)		
Intrinsic motivation for writing	Pretest	0.77	3.25 (0.95)	.050	0.25
	Posttest	0.78	3.48 (0.90)†		
Critical thinking	Pretest	0.85	4.07 (0.87)	.113	0.22
	Posttest	0.86	4.24 (0.70)		
Evaluating Evidence Task	Pretest	–	1.80 (0.67)	.215	0.29
	Posttest	–	2.02 (0.85)		
Home Page Analysis Task	Pretest	–	2.37 (0.67)	.151	0.27
	Posttest	–	2.55 (0.65)		
Media Literacy Task Composite	Pretest	–	2.09 (0.51)*	.045	0.43
	Posttest	–	2.32 (0.56)		

Note.
*Denotes statistical significance between pretest and posttest at $p < .05$ or lower.
† Denotes statistical significance between pretest and posttest at $p < .10$ or lower. ∝ denotes Cronbach's alpha internal consistency. Effect size index: $d = .20$ is small, $d = .50$ is medium, and $d = .80$ is large (Cohen, 1992)

digital media literacy. Lower writing anxiety related to a higher sense of belonging at a medium effect size correlation but not to any other factor. Agentic engagement related to metacognitive self-regulation at a large effect size correlation. Agentic engagement and metacognitive self-regulation each related to flow in learning and critical thinking at medium to large effect size correlations and intrinsic writing motivation at small-to-medium effect size correlations. Flow in writing, intrinsic motivation, and critical thinking related to each other at large effect size correlations. Digital media literacy did not demonstrate any meaningful correlations with other measured factors.

Research Question 2: Analysis of variance from pre- to post-program comparisons

Four of the within-subjects analysis of variance tests for measured factors reached a .05 alpha level of statistical significance and two factors reached a .10 alpha level (see Table 5). Intrinsic motivation to write increased at a small Cohen's *d* effect size $F(1, 49) = 4.021$, $p = .05$. Self-

efficacy in writing increased at a small Cohen's d effect size $F(1, 49) = 3.576$, $p = 0.65$. The small Cohen's d effect size $F(1, 49) = 2.607$, $p = .11$ increase for critical thinking was not statistically significant at either the .05 or .10 alpha level. Writing anxiety increased at a small Cohen's d effect size $F(1, 49) = 6.468$, $p = .014$. Sense of belonging did not change, remaining at the highest mean level among factors $F(1, 49) = .000$, $p = .999$. Metacognitive self-regulation increased at a small effect size $F(1, 49) = 4.407$, $p = .041$. Agentic Engagement increased at a small-to-medium Cohen's d effect size $F(1, 49) = 8.171$, $p = .006$. Flow in writing did not change $F(1, 49) = 0.171$, $p = .681$.

The results from the Evaluating Evidence Task indicated a medium small-to-medium effect size improvement from pre- to post-assessment, though not at a statistically significant level on its own, $F(1, 43) = 1.583$, $p = .215$. The results from the Homepage Analysis Task indicated a small-to-medium effect size improvement from pre- to post-assessment, though not at a statistically significant level on its own $F(1, 43) = 2.125$, $p = .151$. When added together as a composite mean score of both digital media literacy tasks, the results showed a medium effect size increase at a statistically significant level, $F(1, 49) = 4.235$, $p = .045$.

Research question 3: Thematic analysis of student focus groups

The following section provides the results of the coding and analysis completed using the student focus group data collected within two weeks of finishing the program. Nine focus groups were conducted, with 27 Grade 11 students participating in journalistic learning—approximately half of the total sample. In the first series of questions, students were asked to describe and compare their experience in different stages of the journalistic writing process before and after participation. The results below are organized thematically within different components of the writing process. Entire quotes provided thick descriptions in the students' own words.

Research for journalistic writing

Before participation, most students described basic experience with conducting research. Their experiences were limited to using Google searches to find materials, with Wikipedia and YouTube being noted as resources by multiple students. One student pointed out that the types of writing assignments they had completed in the past only required one or two sources or that the writing assignment was based on a fiction book review or opinion piece. As one student noted,

> Before this class, I probably just kind of just looked it up … It was just a Google search. I didn't check for credibility. If Wikipedia showed up for it, I just used the Wikipedia thing. I wouldn't check it or anything like that. I'd just go with what that said as the absolute fact.

Most students noted the experience had changed their understanding of good research, especially regarding journalism. Students' understanding of the reliability of sources changed, learning new steps to help their future research. Several students planned to use the SIFT process they practiced in the journalistic learning experience (Stop, Investigate Source, Find Better Coverage, Trace Claims) in the future when researching issues online.

Evaluating sources

Students in the focus groups generally agreed they had limited experience with evaluating media sources for credibility prior to participation. After participation, many students stated they better understood the importance of seeking out multiple sources to develop a journalistic piece fully. This understanding was not limited to media resources, but also in terms of finding community members to interview for their articles. One student noted,

> Personally, I think that when you're evaluating sources, there's a lot to look for, especially when it comes to if it's credible, if it's biased … And really it's a lot of work because there's not a lot of reliable websites that

> you have to do a lot of researching. Then from what you can find, you also have to dig deep to find if it's the original source itself.

This student's perspective was shared by others, illustrating their growing awareness of the challenge of developing critical thinking skills for practical digital media literacy.

Organization and note-taking

Students generally agreed that they had some prior experience with notetaking and organizing for writing from previous classes. One student reported some stress with how different teachers expected different approaches to notetaking. Their responses varied in terms of their perceptions of how organized they were for journalistic writing, with some students noting that they were generally not organized and others reporting a high degree of comfort with their personal organizational systems.

Interviewing community members

Before participation, students reported mixed experiences with the interview process. Some students had no experience with any aspect of the interview process. In contrast, others had both developed questions and either conducted interviews or been the subject of an interview for other class projects. Most students agreed that the interview process for this curriculum was valuable and enjoyable: "Before this project, I didn't really know how interviews worked. I thought you just ask questions on the top of your head, but after learning what you do, how you organize your thoughts and stuff, I think I liked it, because I like being organized." Some students reported having trouble finding subjects to interview or hearing back from potential subjects in a timely manner, which they found frustrating. Overall, many students reported that the interview part of journalistic learning was the "highlight."

Writing and revising

Students all had prior experience with writing, generally, though most seemed more familiar with creative writing and essays. Many students reported struggling with journalistic writing and revising, primarily due to inexperience with the organizational strategy to structure their resources into a final journalistic piece. As one student noted,

> It was kind of a mess on my end because I had … absolutely zero clue how to write it because I've never written an article before. We had these steps on it. It said on our document write the article … but it wasn't really in depth. Maybe it's a personal thing, I just need the pretty detailed explanation of what I'm doing. Because I had no clue what I was doing or where to start, where to write it out.

Other students had less of a problem with the actual writing, but their lack of focus or time management skills caused them to struggle. One student stated,

> When I was formatting it and stuff, I was thinking of different ways that I wanted it to be formatted … I didn't have a concrete way of organizing my information and being like, 'This is what I'm going to talk about' on a piece of paper. I just thought of it on the fly. I was up till 2:00 AM trying to do that.

Conversely, other students reported strong self-efficacy within their journalistic writing experience: "I feel like everything set up the writing to be pretty fluent, at least for me in my experience … I felt like all the different steps really helped me write the article pretty fluently … writing the article was definitely the easiest part for me." Finally, there were mixed results reported with the peer-revision process. Some students found it helpful to get feedback, while others did not and felt frustrated by the process. One student noted, "I feel like some people didn't do it fully, or just wrote down random stuff. I feel like for the most part people were finding people to peer review their articles … and lots of good feedback."

Collaborating

Students in the focus groups reported that they had experience with collaboration on school projects before participating, and that it was something they generally enjoyed. One student reported,

> I personally like working in groups better. I like getting everybody else's idea. I actually like how we did this because I had the extra help that I needed from my group, but I also got to do it on my own. I didn't have to share my thoughts on one paper with them. I still like collaborating after this.

Some students reported frustrations, such as late work or inadequate effort by others. Some noted that their groups worked in more of a true collaboration, while others felt that while they shared some ideas and resources, they mainly worked on their own to complete their work. In large part, collaboration was enjoyable to students.

Most impactful components

Many students felt being able to select their own issue and topic was one of the best parts. As one student noted,

> I think the most fun part for me was being able to write about something [I am] passionate about. I know just writing straight English essays, I've done fine on them, but not outstanding on any of them. When I had a slam poetry unit a long time ago, I loved it. You could just write what you feel and go. I definitely liked being able to write about something that [I am] very passionate about, and [I] have strong feelings about. It made it feel like someone's listening.

In general, students reported they enjoyed working in a group with people with the same interests, sharing the burden of completing the work on developing and conducting interviews, and being able to read and appreciate others' writing styles. Many students felt interviewing was the most enjoyable aspect. They enjoyed talking to people with real-world experience and were surprised by how the interviews became more like "discussions." One student reported,

> Interviews. Really, it was fun for me. I enjoyed it. Once I had it, writing what they said. Writing passion on paper is key. You can't capture that, but if you pull it off, once you do, it's there. That piece is magic. It's not just you saying whatever you want. It's someone agreeing with you. That's always fun. Agreeing with you and telling you more knowledge that maybe you don't have …

Several students suggested their new skills would be helpful in future classes and pursuits. Students reported learning more because of the hands-on nature of journalistic work, being empowered by having the expectations and structure of the assignment available as a guide, and developing helpful research skills. Finally, the relevance of learning in-depth about real-world issues and the final product looking like a "real" article was meaningful for numerous students. As one student stated,

> I think projects like these are really good for becoming more educated in a secondary sense, if you know what I mean. It's not a lesson, so people don't feel like they have to pay attention when the teacher is teaching a curriculum. But when you go and you research something by yourself, you're wanting to learn more about something. You're putting yourself into something you kind of knew about but not really. And it educates people.

This student's point about their work educating other people on an issue they care about resonated with the perspective of other students as well.

Integration of student survey and focus group results

Pre-to-post program comparison of students' mean perceptions suggested shifts in several components of the journalistic learning process's agentic, affective, motivational, and cognitive dimensions. Focus group data mostly complimented these findings, adding some specificity about the instructional components that may have contributed to these changes. First, students' agentic

engagement changed at the largest effect size alongside a smaller effect in writing self-efficacy. Whereas students' sense of agency in writing, specifically, may have improved slightly, their agentic capacity to create a motivationally supportive environment seems to have shifted more substantially, which resonates in their focus group reflections.

Relatedly, students' metacognitive self-regulation and intrinsic motivation appeared to increase at small effect sizes. In their focus groups, students generally shared a common enjoyment for the experience, especially in choosing their topic, engaging community members for interviews, and following the steps toward a finished article. Those benefits may have transferred to the more general perceptions about writing captured in the survey results. They also expressed more confidence in their ability to evaluate the credibility of sources and incorporate multiple perspectives, which complemented the substantial improvement in the media literacy critical thinking task. Students' final reflections suggested pride in their ability to educate others, pointing to the potential development of proxy and collective agency beyond the personal agency factors measured in this current study.

Whereas those aspects of students' personal agency appeared to respond to the program experience in both quantitative and qualitative data, students' writing anxiety appeared to increase substantially, and no change was detected in students' flow in writing or sense of belonging. Students' focus group reflections did suggest the potential for a high level of belonging at the onset. Still, they did not suggest additional anxiety through the program, except that this approach to writing was new for them. Also, students' general critical thinking did not appear to shift meaningfully. The teacher interview data was analyzed next to clarify, contextualize, and triangulate these integrated findings from the student perspective.

Research Question 4: Triangulating with teacher interview data

Though one interview is insufficient to fully understand the teacher's perspective, this data source provided some helpful triangulation of the student perspective. Table 6 illustrates the most noteworthy points from the post-program teacher interview. The teacher provided an essential insight that students finished and published their work in two formats. Some students completed the intended publication through a WordPress website created by the teacher and open to the public. Other students finished their work in a poster format they presented to their class and exhibited for others to read in school. The teacher attributed those differences to end-of-year stressors, such as final papers and exams in other courses. Based on her past observations, the teacher observed high engagement from many students, including those least likely to engage in other assignments. She noted shifts in the relevant areas of student agency, writing skills, critical thinking, and motivation, identified in student data sources. She felt the source for those positive effects related to the autonomy students held in choosing their topics and their engagement and their dialogue with community members at different stages of the process. Based on her perspective, it appears plausible that concurrent stressors, such as AP exams, as well as the challenge of writing journalistic pieces for the first time and doing a peer review process, contributed to the increase in writing anxiety found in the survey results. The teacher reinforced the importance of practicing critical thinking techniques about source credibility, like SIFT—one of the tools students agreed they would carry forward.

The teacher witnessed students questioning their preconceived ideas about the issues they addressed. For instance, one group of male students wrote about obesity. They believed they would confirm their notions, according to the teacher, that "people are obese because they eat terribly, and they don't exercise." The three experts they spoke to unveiled new complexity about the topic. As the teacher shared, "I think they thought they knew what they were going to write, and then they learned something totally different. That was great just watching their thinking process … I mean it wasn't something that happened overnight." The teacher saw many other

Table 6. Emergent themes from teacher interview data.

Components	Details
Implementation highlights	• The SIFT (Stop, Investigate Source, Find Better Coverage, Trace Claims and Quotes) method worked well for students and could be useful for other parts of ELA curriculum • Students were mature and professional with the interviewees and overcame their nervousness • Podcast was a helpful addition to listen to while cooking or prepping the day before the next lesson
Implementation challenges	• Writing the articles was hard—a template would help students • Could have used more "filler" material in the early stages, such as more anchor articles for students, more history of journalism, and supplemental short stories
Student experience	• Students were invested because they were very interested in the topics—they wrote down and shared a huge variety of important social justice questions and issues they wanted to pursue • After they heard interviews, students continued discussing them—high engagement • The timing was hard from many students because of simultaneous AP testing and final projects in other classes • Students made new friends because they joined teams based on interest • Responses from interview requests differed drastically, frustrating some students • Students could have used more scaffolding in the writing process—more low stakes opportunities to practice different parts of the journalistic writing skills • Students needed more practice in oral presentation • Students seemed to improve in their writing and in their critical thinking—they challenged their own assumptions and developed greater empathy
Adaptations & innovations	• Added in another assignment to further prepare students to make their article pitches with volunteer community members, which helped them reframe some of their interview questions • Created a spreadsheet with each student team to help them organize their sources • Could have spread out the introductory material across the year • Students created poster instead of publishing online; shared across classes

students address issues like urban crime and unhoused people, developing new compassion along the way. As the teacher shared, "there was a group that wrote about foster care that are actually volunteering their time this summer with some organizations. Their hearts were just touched at, 'Wow, it's happening.' It's nice to see that students change because of it." Though students' general critical thinking skills did not shift, on average, according to survey results, the teacher saw some groups transform their thinking meaningfully.

The teacher felt impressed by students' self-directed interest in digging into complex social justice issues and their capacity to think critically about the questions they asked and the responses they received from community members, as the following excerpt describes:

> Some students got into some really big critical thinking … a couple of people came in, like police officers … every once in a while, they referred to somebody as the bad guy or something like that. I had a student really critique their language and how they were 'otherizing' these people. It was interesting to have some of those conversations that I don't think we would have had if we hadn't done this … When somebody came in, we'd always open it up to the classroom once their questions were asked. They asked some really interesting, sometimes off topic, questions. I think they learned a lot. I think that part was great.

The teachers' perspective added context to the development of proxy and collective agency toward civic intentionality in students' learning. The teachers' reflexive adaptations to program implementation described in Table 6 also illustrated that the journalistic learning experience needed to be scaffolded carefully to prepare students.

Mixed methods discussion and implications

When synthesized across the different methods and data sources, results illustrate students' personal and proxy agency development through a journalistic learning approach within a learning

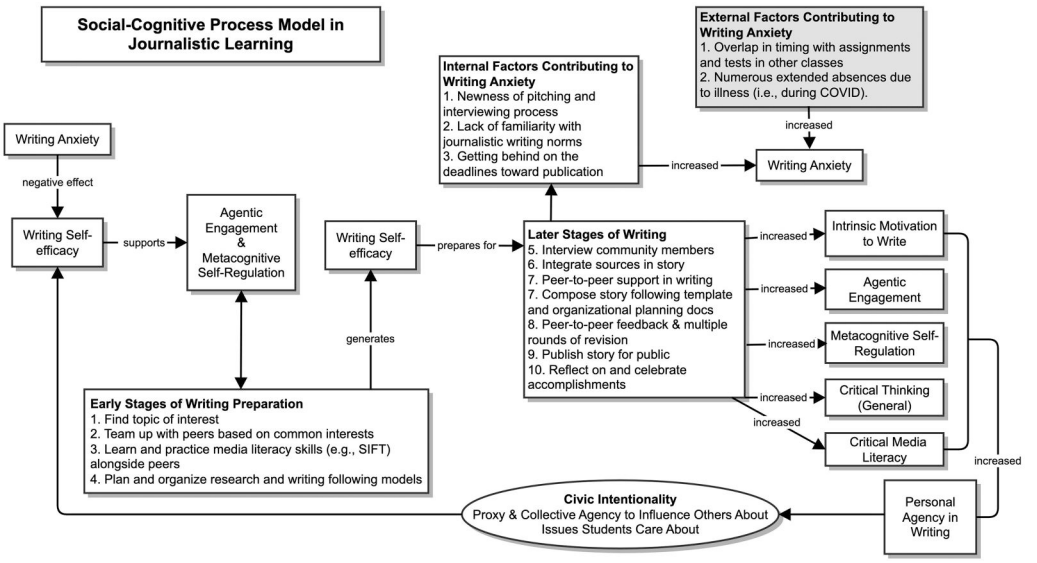


Figure 3. The mixed method results inform this updated process model to illustrate how students engage and develop through this journalistic learning approach to become agentic writers toward civic intentionality.

environment that centers on their agentic engagement (Bandura, 2018; Mihailidis, 2018; Reeve, 2013). Quantitative results suggested positive change in agentic engagement, metacognitive self-regulation, media literacy critical thinking, writing self-efficacy, and intrinsic motivation in writing at small to medium effect sizes. Writing anxiety also appeared to increase unexpectedly. Integrating qualitative data analyses showed that students struggled and persisted through various new learning challenges, such as organizing multiple data sources and interviewing professionals from the community. The development toward civic intentionality described by students reflects many parts of the proposed model in Figure 1 and suggests important elaborations and implications discussed further in the following sections. Figure 3 updates the process model based on the mixed methods results.

Sources of self-efficacy development

According to focus group results, students brought self-efficacy to journalistic writing in various ways, including past experience interviewing people, some familiarity with research, a personal interest in the topic, and some organizational skills for writing. As detailed below, students developed self-efficacy through a variety of journalistic learning components at both early and later stages of the experience.

Vicarious self-efficacy from peer collaboration

First, although students had mixed feelings about the peer review process, reflecting mixed results in the literature (Camacho et al., 2021), peer collaborators who chose similar interest-driven topics and supported one another throughout the writing process supported students' confidence and success in the endeavor. Still, some students appeared to benefit from the peer review process. Students' sense of belonging was already high before the program, indicating relational trust likely helped to make collaboration effective. The teacher also observed students developing new friendships through the interest-driven grouping process. Students took on different roles, which allowed each student to contribute. Within Bandura's (2018) social-cognitive framework, the self-efficacy modeled by others can provide crucial *vicarious* agency for an individual—a process that appears to occur in journalistic learning.

Critical thinking and digital media literacy skills

Students' critical thinking skills to evaluate media credibility using the SIFT technique also appeared to be a source of writing self-efficacy. Those skills also contributed to the improvements found in the media literacy tasks. Moreover, the way students spoke about developing this skill reflected an awareness that it was vital for their ability to be responsible content creators and consumers in the increasingly complex information environment they inhabit (Mihailidis, 2018). Though students' perceptions about general critical thinking did not improve, on average, in a meaningful way and were not related to students' digital media literacy skills, the teacher observed students' critical reflective capacity at work through engagement in complex issues, such as obesity, that challenged their own biases. This capacity for critical reflection and epistemic reflexivity (Lunn Brownlee et al., 2022) could be an essential metacognitive factor to include in future iterations of the social-cognitive process model toward civic intentionality (Beach et al., 2020). Notably, past research on critical thinking (Lai, 2011) suggests it may develop best within the context of the domain, such as digital media literacy. Future iterations of the process model could include critical reflection (i.e., the ability to evaluate one's own bias and perspective about an issue) and other aspects pertinent to journalistic learning.

Writing with intrinsic motivation and self-efficacy

Both qualitative and quantitative data suggested the journalistic learning experience may have enhanced students' intrinsic motivation to write primarily by providing them autonomy to pursue their topic of interest. By being invested in their topics, students seemed to care more about the actual writing itself, according to focus group data, which was also reflected cross-sectionally in a correlation of $r = .41$ between these factors (i.e., writing self-efficacy and intrinsic motivation to write). It is possible that students became more motivated in writing because of the civic intentionality that journalism demands—this causal link should be researched in the future.

Engagement with the community

Observers might reason that journalistic learning is more appropriately situated in social studies courses. However, in its 2022 Civics Guide, the National Council for Teachers of English acknowledged that "English language arts is a foundational source of civic learning, as young people navigate overwhelmingly complex media landscapes, battles over social issues they are permitted to discuss in class, and an increasing range of opportunities available to them to take action on the most pressing issues threatening their futures" (NCTE, 2022a). Students' interaction with community members through pitching their article ideas and conducting interviews appeared to strengthen students' self-efficacy, which sometimes led to outside validation of their own ideas by an adult or critical self-reflection that resulted in important shifts in their perceptions. Success at something challenging and new, such as organizing and conducting a professional interview, boosted their self-efficacy, too. In line with past research (Magnifico, 2010), student focus group and teacher interview data suggested that students' sharing of their final journalistic pieces with a broader audience—civic intentionality at work—contributed to both writing self-efficacy and motivation. Notably, this component of their experience may have provided the biggest boost to their proxy and collective agency (Bandura, 2018), expressed by students in how their work could educate others.

Metacognitive strategies

Some focus group participants suggested their existing strategies in organization of writing transferred to the journalistic learning context well, and others suggested new skills developed that might provide greater agency in other types of writing challenges in the future. The positive

quantitative change found in metacognitive self-regulation reflected those specific perceptions shared across most focus group members. Metacognitive development can be an incredibly powerful lever for students' academic identity and success (Beach et al., 2020). Closely related, students' agentic engagement—their ability to create motivationally-supportive environments—also changed substantially from pre- to post-assessment. More research, including experimental designs, can help validate these promising findings and clarify the amount of metacognitive and agentic development needed for successful initial engagement in journalistic learning and actions teachers can take to facilitate this development equitably for students.

The complexity of writing anxiety

As expected, writing anxiety was negatively correlated with writing self-efficacy and a sense of belonging. However, it was not related to flow in writing, intrinsic motivation to write, or any other factors. Research suggests a high prevalence of writing anxiety among adolescents, often due to past experiences, which can result in a variety of physiological responses, such as nervousness, and behavioral responses, such as avoidance, self-criticism, or obsession. (Barwick, 1995; Martinez et al., 2011). However, that research does not indicate writing anxiety should be or can be avoided altogether. In fact, some level of anxiety may be motivational (and unavoidable) for students in challenging academic tasks, such as writing.

Our original proposed process model was unclear about the role that writing anxiety may play, except that it would be lower for students with higher levels of writing self-efficacy and could be reduced through journalistic learning if the experience increased writing self-efficacy; however, the opposite was true in this study. There are several ways to interpret this result and to improve the process model. First, some students shared in their focus groups the task of creating and publishing a journalistic story was new, so uncertainty with the task could be a source. Similarly, students expressed they weren't familiar with the writing norms in journalism or the organizational structure they were asked to use. Second, students expressed discomfort with the pitching and interviewing part of the process, which the teacher confirmed. Third, the timing of this experience coincided with circumstances that may have exacerbated students' anxiety, more generally. According to the teacher, there was an increase in absences due to the COVID-19 Omicron variant, and students were facing high-stakes writing assignments in other classes—both factors could have elevated their levels of stress and anxiety. In the end, some anxiety was likely helpful to student persistence to finish their articles, such as the student who stayed awake working until 2:00 am. When anxiety hits a certain threshold for some students, though, it detracts from their academic buoyancy and resilience when challenges arise; teachers can help by teaching anxiety reduction techniques, such as breath control (Anderson et al., 2020). Future research with this process model should incorporate external factors that may shape these internal factors for students. Figure 3 updates the process model with these new factors included. Additionally, future research should work to understand more about how students experience and regulate writing anxiety in this context.

Linking student passion, agency, and critical thinking

Choosing a writing topic and engaging with community members and professionals for interviews were the two most motivating aspects for students to feel autonomy and develop agency. Not surprisingly, neuroscience suggests this kind of autonomy is essential for adolescents (Dahl et al., 2018). Given agentic engagement can preempt other forms of engagement in learning (Patall et al., 2019; Reeve, 2013), helping students make their motivational preferences explicit and known may be necessary at multiple stages of journalistic writing for civic intentionality. As the teacher shared, the journalistic inquiry process empowered students to develop their opinions and engage the perspectives of others openly regarding essential issues in the world around them.

More importantly, this process guided them toward epistemic reflexivity to question and critique their preconceived ideas and the opinions of others.

This agentic, reflective, and critical capacity toward civic intentionality aligns with existing models, such as: (a) Paulo Freire's *problem-solving model* (Freire, 1973) focusing on critical consciousness (Jemal, 2017) as the heightened awareness about community issues; (b) Jeffery and Wilcox's (2014) *agentive stancetaking* as the capacity and drive to take a stance on an issue and present it to others; and (c) Bobkowski and Harrison's (2022) *journalism civic self-efficacy* as an individual's confidence to apply journalistic practices to enhance awareness of community issues. The revised process model in Figure 3 resulting from this study reflects the core ideas in those other models within a social-cognitive theory perspective situated in the high school English classroom context. More research is needed to learn how students' passion for specific issues they write about connects to different types of agentic (e.g., becoming a better writer) and communal goals (e.g., advocating for an issue they care about) within their development in journalistic learning (Diekman & Benson-Greenwald, 2018).

Implications for research

The process model informed by social-cognitive theory in this study integrates students' agentic, cognitive, affective, and metacognitive development in writing toward civic intentionality in a way that other researchers can adapt and build on within an innovative instructional approach. Future longitudinal research should focus on how journalistic learning may sustain students' civic intentionality through self-directed pursuits, such as the group of students who planned to volunteer in foster care in the upcoming summer after writing about the topic. Other research could further refine the proposed process model with a detailed comparative case study to understand how students' metacognitive knowledge and skills and agentic self-beliefs and actions integrate with their feelings of passion and purpose in collaboration with others toward the publication of an original journalistic article. More research is needed to learn how this potential for proxy and collective agency plays out when student writing about controversial topics, such as drug use or the unhoused, is published in the public sphere and received by an audience of parents and community members.

Implications for classroom practice toward agency in writing

This study demonstrated the journalistic learning approach investigated can be a concrete approach to media literacy, leading to multiple outcomes. Results show it can enhance motivation, metacognition, and agency for students and civic outcomes, such as the publication of original journalism and stronger critical thinking in media literacy and consumption. As described in this study, this journalistic learning approach can introduce and reinforce multiple civic media literacy practices. Results suggest improvements to writing instruction that may be relevant beyond journalistic learning. First, students may benefit from more low-stakes, interest-driven practice for informative writing more regularly. Second, students may benefit from more opportunities to share writing with each other in non-threatening feedback loops using clear structure and guidelines to make peer review feel successful and valuable for all students. Third, students might benefit from having a writing journal for "free-write" time to write about anything on their minds and find a flow more easily. Writing techniques take a great deal of practice, so students may benefit from practicing explicit metacognitive strategies for writing and media literacy, in line with research on successful metacognitive interventions (Beach et al., 2020). Finally, teacher education for secondary school writing instruction could engage in journalistic writing as a way for teachers in training to experience this kind of learning firsthand and understand how it can integrate into teaching for civic literacy and engagement, investigation of important community

issues, and the welcoming of community members into the classroom through interviews and journalistic storytelling. Moreover, the firsthand experience of publishing an original journalistic story is likely an unfamiliar experience to many teachers and could be an important component to help motivate them to facilitate this challenging but rewarding learning experience for students, and to believe that it is both possible and valuable.

Limitations

Several limitations in this study are contextual: (a) it represents the first iteration of the teacher training; (b) it took place during the surge in school absences and disruptions that resulted from the COVID-19 Omicron variant; (c) students were juniors in high school, so many of their self-beliefs and perceptions may be hard to shift, meaning small effects may be important; and (d) students' stress level was high at the end of the school year due to extensive testing and final assignments across other classes. The study was a small sample, non-experimental design due to various challenges conducting research during the COVID-19 pandemic; however, the mixed method study was strengthened by triangulation of data from three sources—pre- and post-survey, student focus groups, and teacher interview. The student sample in this study was not particularly diverse racially or ethnically but did include diversity in learning needs and English language development as well as in students who mostly faced economic marginalization. Given the high rate of 92% of students being on-track to graduate, students in this sample did appear to be academically well-prepared. Given those characteristics and the locale within a Pacific Northwest suburb, readers should take care to generalize results based on how this locale and these student demographics compare to others of interest. For instance, this journalistic learning approach may require substantial modification for a population with higher rates of English language development students or with less academic preparation.

Conclusion

The journalistic learning process exemplifies the social-cognitive process model developed, tested, and extended in this study. Our process model includes multifaceted aspects of the student learning experience in research and writing that are relevant to a variety of different contexts for research and practice in schools. Results from this study emphasize how schools can and should prepare students to carry civic intentionality and critical reflection into what they think, read, hear, and write about. That empowerment may further develop the agency students need to contribute to our democratic future.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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