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Self-Determined to Write: Leveraging Interest, Collaboration, and Self-Direction Through a Journalistic Approach

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ABSTRACT

Becoming a proficient writer is a core competency for effective communication and central to college and career readiness for learners. Despite broad adoption of more rigorous standards and a push to incorporate writing across the curriculum, the majority of U.S. students across different grade levels fall short of grade-level expectations in writing. This study applies self-determination theory in the design and developmental research of an approach that integrates journalistic interviews and writing practices into typical middle school student English language arts/social studies curricula. In this mixed-methods study, 53 sixth grade students in rural (omitted for review) participated in journalistic learning once per week. The 36-week program applied self-determination theory to build dynamic opportunities for individual interest, collaboration, and self-direction, catalyzing students' self-determined motivation to write. Findings suggest students experienced regular opportunities to learn and apply skills in collaboration and self-direction and were prepared and satisfied learning those skills. On both quantitative and qualitative data, students reported positive perceptions and attitudes, high levels of individual interest and intrinsic motivation to engage and persist in journalistic research and writing, a flow experience in the writing process, high levels of autonomy to be self-directed, competency for critical thinking, and relational support from their teachers and peers as a result of their participation in journalistic learning. Comparing results from the early phase with results at the end, effects all trended in the positive direction with greater exposure and experience in the program.

Becoming a proficient writer is a core competency for effective communication, contributing to one's ability to persuade, interpret, and express knowledge (Graham, Gillespie, & McKeown, 2013). Writing can enhance quality of life through self-expression and connect people through storytelling and empathetic sharing (Graham, 2006). Unfortunately, the majority of U.S. students fall far short of grade-level expectations in writing (National Center for Education Statistics, 2003; Salahu-Din, Persky, & Miller, 2008). Comparing the three "Rs" of reading, writing, and arithmetic, writing continues to be neglected most in educational policy, practice, and research (Puranik, Patchan, Lemons, & Al Otaiba, 2017). Teachers acknowledge that time allotted for writing instruction decreases sharply after third grade (Applebee & Langer, 2011; Gilbert & Graham, 2010). Moreover, an analysis of 2,400 syllabi from teacher preparation programs revealed significant gaps in how educators are trained to teach writing (Goldstein, 2017). A review of more than

1,500 middle school student assignments found that only 1-in-20 matched high standards criteria, and 4-in-10 were grade appropriate (Grayson, 2015). Despite broad adoption of more rigorous standards and a push to incorporate writing across the curriculum, high-quality, engaging writing instruction appears to be rare. As a result, students' motivation and skill development in writing suffers.

Related to students' writing development, motivational patterns in school, generally, demonstrate a relatively stable decline starting in middle school and continuing through high school (Anderson et al., 2019). Moreover, two decades of research has documented that the structure of middle school (usually, grades 6–8) is not optimally designed for the social and psychological needs of early adolescent learners to engage in challenging learning tasks, like writing (Eccles & Roeser, 2011). By the time students get to high school, they may have many negative feelings about writing that will be powerful demotivators (Cleary, 1991). This study begins with the premise that to increase students' writing skill requires that schools first cultivate positive motivation in the social setting of a classroom and facilitate high-quality, engaging learning experiences in writing during the formative middle school years. We respond directly to past scholars (Mason, Meaden, Hedin, & Cramer, 2012; Troia, Shankland, & Wolbers, 2012) urging future research and innovation to incorporate the social factors of writing development and to understand the role of individual interest and value in motivating students.

This study applies self-determination theory (SDT; Deci & Ryan, 1985, 2011) in the design and early stage research of an integrated journalistic instructional approach in typical middle school English language arts and social studies classrooms. Journalistic learning responds directly to students' individual interests by offering salient, local, and current writing topics, opportunities to interview others, a collaborative process for feedback and revisions, and publication of original work for an authentic audience, using different media formats. In this study, two classrooms of sixth grade English language arts/social studies students in a rural U.S. community participated in the journalistic learning experience once per week supported by their teacher and a recent journalism school graduate. They identified experts, conducted research, generated interview questions, facilitated virtual press conferences with professionals, completed multiple drafts, and wrote and published original work online. The 36-week program aimed to apply SDT to build dynamic opportunities for collaboration and self-direction, thereby catalyzing students' intrinsic motivation to write. In this study, we present descriptive results from our exploration of journalistic learning experiences in middle school, framed by SDT using mixed methods to understand if and how the approach motivates students to engage and persist in school-based writing tasks.

Motivating adolescents to write

For students in school, the act of writing originates with different types of motivation––such as perceived confidence, goal orientation, task value, and attributions for success and failure—depending on the task at hand and the conditions in the learning environment (Troia et al., 2012). Yet, the drive to pick up a pen or type out characters to capture, convey, and communicate ideas begins with interest to express something personally important through *agentive stance-taking*—the capacity to actively form an opinion and present it to others (Jeffery & Wilcox, 2014). As with other academic learning activities, students will engage in learning with a focus on personal mastery—the optimal motivational orientation—when they sense that the activity is meaningful (Ames, 1992). The expectation of presenting to an authentic audience within the learning process can amplify the value and purpose of a challenging task, such as writing (Magnifico, 2010). Opportunities to build on students' individual interests and increase the perceived value of writing are likely much needed catalysts in the middle school setting. Indeed, by adolescence, many students approach writing with severe negative affect, including anxiety and dread, which demotivates them to engage and persist in the process (Cleary, 1991). Writing

experiences in middle school should focus on individual mastery through multiple drafts and individualized feedback, agentive stancetaking to allow each students' unique voice and viewpoint to emerge, presentation of written work to a broader audience, and the careful removal of pressures that create a sense of anxiety or dread.

Those ideas are supported by the literature of Bruning and Horn (2000), who outlined four factors that writing instruction should include to enhance students' motivation to write. First, *nurturing functional beliefs* about writing and its outcomes relates to instruction and feedback that challenges students' self-limiting beliefs about writing (Bandura, 1997; Schunk & Rice 1991)—beliefs that will dictate the amount of effort a student applies to writing (Schunk & Swartz, 1993). Effective writing instruction should explicitly model mindsets and messaging that overcome self-limiting beliefs. Second, *fostering student engagement through authentic goals and contexts* relates to whether students view their work as a genuine, self-directed expression of their present-day reality (Hiebert, 1994) or as an externally assigned task. Students will engage and persist in writing that attunes to their interests (Hidi, 1990) and that gets published for an authentic audience (Elbow, 1994). Therefore, students' social, cultural, and personal interests should be central in the early stages of writing instruction, and publication experience should be a tangible goal that students work toward. Careful integration of the journalistic process can set those conditions for student writing.

Third, Bruning and Horn (2000) refer to *providing a supportive context to develop requisite writing skills* to suggest that students need to ascribe qualities to the work itself and make cost-benefit analyses about the best way to manage their time and resources (Hayes, 1996). As such, students benefit from goal-setting, monitoring, and constructive feedback throughout the writing process (Larson, 1995; Schutz, 1993). Challenging assignments develop students' sense of competency and autonomy (Meece & Miller, 1992) and appeal to students as long as skill development parallels the challenge level (Doyle, 1986; Larson, 1995)—key ingredients to foster a flow experience (Csikszentmihalyi, 1990). Effective writing instruction should scaffold difficulty in writing practices carefully. The last of Bruning and Horn (2000) factors, *creating a positive emotional environment,* establishes a psychologically secure space for students to experiment with writing and move past anxieties. Self-expression in writing can be a solitary and arduous process (Boice, 1994), and the fact that others may read and judge the work can be stressful (Bandura, 1997). Habitual negative "self-talk" clouds perceptions of abilities and adversely affects the enjoyment of writing (Daly, 1985; Madigan et al., 1996). While learning how to cope with the pressure and stress of deadlines and accountability to others is important to healthy adolescent development, anxiety and dread can be avoided. Bruning and Horns' four factors provide a blueprint for how a journalistic approach can foster adaptive motivation patterns in writing, emphasizing consistent goals, timely feedback, multiple drafts, openness to critique, and gradual reinforcement of self-efficacy in the writing process.

Self-determination theory

Deci and Ryan's SDT reinforces Bruning and Horn's (2000) factors and further clarifies the motivational process through which adolescent learners develop their interest and orientation to writing in school or not (1985, 2011). SDT posits two basic types of motivation: intrinsic and extrinsic. Intrinsic motivations align with authentic interests internal to the activity and lead to pursuits that bring a sense of personal joy and fulfillment. In writing, those interests could be the content or the act of writing itself. Extrinsic motivations are driven by a variety of externalities to the activity, such as rewards, punishment, and expectations (e.g., the desire to receive praise from the teacher, earn a high grade, or win a contest). Extrinsic motivations fall on a self-determined continuum. Most commonly referenced in research among extrinsic motivations, *external regulation* is the least self-determined and refers to pressures, such as good grades or punishment for

bad grades, that are external to the individual yet drive their behaviors. *Introjected regulation* is more self-determined and refers to external sources of motivation that individuals internalize but don't fully accept, such as forcing study time to conserve self-esteem (Otis, Grouzet, & Pelletier, 2005). *Identified regulation* is more autonomous, in that individuals have accepted external regulation and there is some presumed value (e.g., meeting an externally established publication deadline to reach success). *Integration* occurs when individuals fully assimilate and take ownership of motivation sources. For middle school students who lack intrinsic motivation to write, the social classroom environment can create writing experiences that cultivate the identified or integrated regulation side of the extrinsic spectrum.

Distinguishing the difference is key to understand the factors that motivate and sustain adolescents' writing practice and to design instructional programs that balance intrinsic with extrinsic motivational sources in adolescence. For instance, by integrating journalistic practices into typical middle school writing instruction, such as interviewing others, students may become intrinsically motivated to investigate and write about personally and socially relevant topics, while also developing social belonging in an academic setting. The writing activities may cultivate the agentive stancetaking that Jeffery and Wilcox (2014) found to be crucial to adolescent learners if they care about what they write. Learners may persist with multiple drafts and additional research through identified regulation to work toward collective deadlines to publish for an authentic audience. The identified regulation type of extrinsic motivation is different than working hard for a product that will only be seen and graded by a teacher. From this angle, a journalistic writing assignment aimed for a broader audience may become more positively internalized than a typical writing assignment.

Making writing social

The SDT framework (Deci & Ryan, 1985, 2011) also informs how the journalistic learning experience may foster a social-psychological context in the middle school classroom that is conducive to all students feeling a sense of autonomy, competence, and relatedness in relationship to writing. Autonomy refers to one's sense that his or her actions are self-directed; competence refers to one's sense of having the skills or potential to succeed in a task; and relatedness refers to one's sense of belongingness and support. A sense of competence occurs when the task at hand neither far exceeds nor falls way beneath one's present capabilities. There is a sense that one faces an appropriate challenge that is "reachable," in terms of accomplishment. In a journalistic learning approach to writing, the competency to develop deep questions for an interview and to critically assess the credibility of a source before including it in a story is developed gradually with modeling and guidance. In a classroom, relatedness draws on the peer and teacher relationships and structures of support, making successful collaboration more personally integrated motivationally. Through carefully designed experiences that develop collaborative skill, journalistic learning may provide students multiple relevant roles to play in the writing process that fulfill those fundamental needs.

Figure 1 merges SDT and research on motivation in writing to illustrate the theory of change driving why a journalistic learning approach should lead to greater interest, metacognition, social support, and motivation in writing. Integration of journalistic learning should provide experiences that build on individual interests and interaction with the community around them. Journalistic learning should develop skills in deep questioning and the incorporation of multiple perspectives and sources in the analysis of an issue. Aligned to professional journalistic experiences, the integration of journalistic learning in middle school should lead to interdependent collaboration with peers, extensive feedback and multiple drafts prior to publishing for an audience beyond the classroom. When those conditions are in place, students should (a) become more instrinsically motivated, (b) place greater value on writing tasks, (c) think more critically about issues, (d)
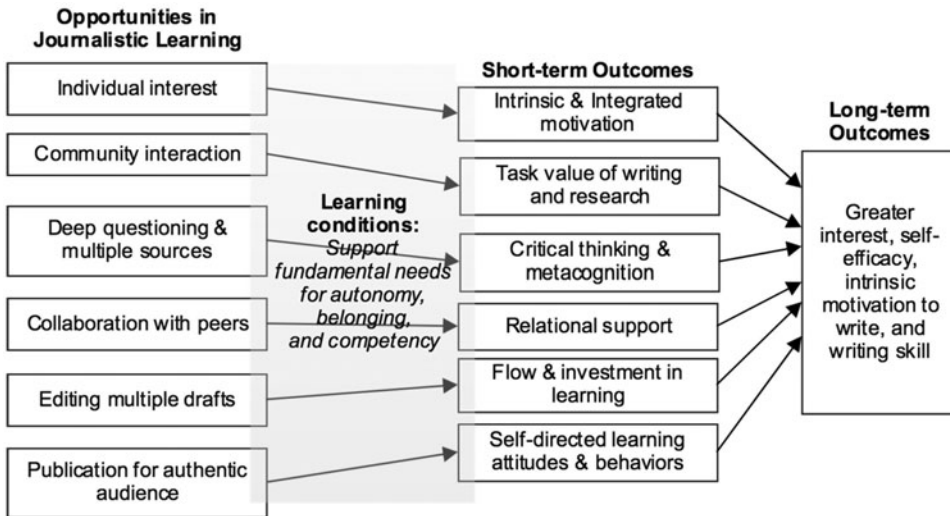
Figure 1. The theory of change for journalistic learning in middle school merges research on motivation in writing with self-determination theory to suggest specific conditions and opportunities in the learning experience will lead to enhanced motivation, critical thinking, flow, relational trust, and self-direction in writing.

develop greater relational trust with teachers and peers, (e) find greater flow and concentration in writing, and (f) develop self-direction in their writing. With consistent experiences that reach those short-term outcomes, students should develop more lasting interest, self-efficacy, instrinsic motivation to write, and, ultimately, greater skill and achievement in writing. This study will provide an initial exploration of how this theory of change plays out for middle school students.

Why a journalistic approach?

Given the continual challenges of both high quality writing instruction and underdevelopment of students' writing skill—even in the face of increased standards—new approaches to writing instruction are needed, especially methods that disrupt the negative motivational patterns documented by research. The central idea of a journalistic approach addresses those motivational patterns by acknowledging that students bring a wealth of experiences and interests to school with pedagogical value that is frequently ignored. The journalistic approach honors and taps into these intrinsic interests––thereby meeting students where they are (Hobbs, 2007; Anonymous, 2012). The approach draws from a four-part framework (See Figure 2) that emphasizes *voice, agency, publication,* and *reflection. Voice* supports students in realizing their opinions and experiences matter; *agency* has them see their voice can influence others; *publication* acknowledges the power of sharing their stories with an authentic audience––not just teachers; and *reflection* completes the process by having them expand their awareness and explore deeper meanings.

The experience requires students to choose their topic of interest, conduct their own research, interview experts via Skype or in-person, evaluate the credibility of sources, ask deeper questions about a topic, write a well-researched and balanced article that includes multiple perspectives, and collaborate to gather and refine stories over multiple drafts toward publication (Wojcicki, Izumi, & Chang, 2015; Anonymous, 2012). Importantly, a journalistic approach can benefit students by creating positive experiences of success that are key to developing self-efficacy beliefs about their ability to write—a key to initiating and sustaining motivation to write (Jinks, 2003; Saddler, 2012). Students learn to collaborate on team assignments and meet tight deadlines

Figure 2. The JLI Framework, © 2018 JLI.

interdependently (Wojcicki, Izumi, & Chang, 2015; Anonymous, 2012). Journalistic assignments tend to be more immersive than traditional language arts and social studies assignments because they challenge students to base their writing on authentic firstperson interviews. Moreover, the qualities of the journalistic learning experience, designed through an SDT perspective, align to pedagogical principles supported by neuroscience research of adolescence, including real-world experiences, opportunities for choice, and peer learning connections (Armstrong, 2016).

Additionally, the intervention uses a real time *reverse mentoring* approach to professional development. Applying the model from the business world (Steimle, 2015), this approach coaches millenials to advise and collaborate with career educators to enhance educators' pedagogy with contemporary media and technology experience that resonates with adolescents in today's world. Applicants to this role must have demonstrated prior leadership and professionalism, typically as a student publication editor. They tend to exhibit higher levels of maturity than peers who may not have managed teams, administered projects, or dealt with the complexities associated with covering breaking news and sensitive topics. In classroom scenarios, these tech-savvy millennials bring fresh perspectives to learning and an array of digital skills (Marcinkus Murphy, 2012). Reverse mentors also serve as near-peer role models for students who may not have a household member who attended college (Niday & Campbell, 2000). Finally, working with a teacher-assigned teacher, they model effective collaboration strategies in realtime. Though reverse mentoring is a prevalent practice at tech companies, like Cisco and Hewlett Packard, the approach appears to be nearly nonexistent in K-12 teacher training.

Stimulating collaboration

In addition to those new collaborative opportunities for teachers, a journalistic learning approach should create opportunities for students to collaborate across phases of their writing experience. As a collaborative endeavor, writing can draw on an individual's cognitive capacity within a sociocultural setting, where the input from others—teachers and peers alike—can benefit the writing process (Puranik et al., 2017). Within journalistic practices, writing involves collaboration, inherently, as student reporters work in teams to research, interview, write, and publish stories. Collaboration includes intrapersonal metacognitive facets, such as self-awareness of strengths and monitoring of strategies, and interpersonal components, such as communicating effectively, negotiating, collective decision-making, and supporting others (Lench, Anderson, & Fukuda, 2015). A journalistic learning approach can require multiple students to share a beat, such as local news, and call on the collaborative writing process to create a sense of relatedness and belonging in the classroom. Publishing stories for an authentic audience adds an additional layer of social interaction and collaboration. That interaction carries forward from the beginning stages of identifying what and how to communicate to the specific audience until the final stage of getting feedback and ideas (Magnifico, 2010). In adolescence, peer-to-peer engagement is key to healthy development and part of the natural biological drive (Armstrong, 2016). The shared nature of the writing experience and management of deadlines may be of intrinsic interest and support the internalization of typically extrinsic sources.

Fostering self-direction

Considered to be part of the learning process but also an outcome of learning (Candy, 1991), self-direction incorporates both intrapersonal dimensions, such as self-regulated learning strategies—highly effective in supporting students' writing (Mason et al., 2012)—and interpersonal dimensions, such as help-seeking and receiving feedback (Lench et al., 2015). Emerging research demonstrates that components of self-direction can lead to meaningful narrowing of achievement gaps between historically marginalized students and their more privileged peers. For instance, growth mindset—the belief that ability can grow with effort and a determinant of initiative in learning—is malleable through intervention. Research shows that having a growth mindset can improve student achievement (Paunesku et al., 2016) and decrease the effects of poverty on achievement (Claro, Paunesku, & Dweck, 2016). Another key aspect of self-direction is self-awareness and pursuit of personally meaningful interests. As Mason et al. (2012) identified, long-term individual interests are a key motivator in writing and are more stable than the situational interests that might arise from more external sources, such as peer pressure. These findings suggest that self-direction in writing activities, such as journalistic learning, should support improved, equitable outcomes for students. Moreover, in combination with opportunities to collaborate, self-direction in writing activities may enhance student's motivation to engage and persist in writing during the middle years, when their academic preparedness for high school and beyond may depend on it.

Research questions

Through a mixed method, nonexperimental design, this study explored student perspectives to evaluate the alignment of the journalistic learning approach to SDT and analyze early evidence of promise that a journalistic approach can produce meaningful learning opportunities and further motivate students in the writing process. This study focuses attention specifically on how students feel and think about their writing skill and experiences rather than analyzing their actual writing performance and skill. As the research reviewed indicates, students' affect, social experience, and motivational orientation matter a great deal in how they develop their writing skill. Our approach

in this study is to place that positive affect and motivation toward writing as the key design constraint and outcome for a journalistic writing intervention. The analyses focused first on student perceptions of their opportunities to collaborate and self-direct their learning in the program. Next, we compared the student experience writing in the journalistic learning program to other classroom experiences and evaluated students' perceptions about the effects of the program on aspects of their motivation to write. We used data from a follow-up survey assessment to test if perceived benefits may have resulted from the initial novelty of the experience or other response bias issues, like self-presentation bias (Anderson & Beach, 2017). Finally, we analyzed students' interviews about their experience to see if they converged or diverged from survey responses. The analyses were structured around the following questions:

1. Does journalistic learning provide regular opportunities to learn and apply collaboration and self-direction skills?
2. Regarding SDT-related aspects, what is different about journalistic learning for students compared with their typical learning experience?
3. Does journalistic learning appear to support the development of students' persistence, collaboration, enjoyment and flow, critical thinking, relationships to teacher and peers, and motivation in writing?
4. What changes in the students' perceptions about their experience after longer engagement with the program and technique?
5. Do students' own perceptions of journalistic learning converge, complement, or contradict the survey findings?

We hypothesized that (a) the experience would align with the SDT framework; (b) perceptions of intrinsic motivation would be higher, comparatively; (c) the integrated program would contribute to motivation and other outcomes of interest; (d) perceived benefits would sustain for the experience across a school year after any novelty receded; and (e) students' descriptions would support those themes.

Method

In this study, we applied a developmental evaluation approach (Patton, 2011) with several extant measures, validated in past research, to collect data about students' perceptions, learning opportunities, and attitudes regarding their experience in the journalistic learning program early in its pilot implementation. Additionally, we used a student focus group protocol in the mixed methods approach of concurrent triangulation (Creswell & Plano-Clark, 2017) designed to understand if and how students' experiences and perceptions firsthand converged with survey findings. The aim of the study was to inform areas of improvement as well as to provide early evidence for the field regarding the careful integration of journalistic learning to enhance student motivation, engagement, and achievement in writing in middle school. The research team included both program designers and independent evaluators.

Pilot intervention design

The research team identified and trained a recent journalism school graduate to work alongside a middle school educator with 25 years of teaching experience, for one day a week for 30 weeks of a school year. The career teacher had a bachelor's degree in journalism, but no work experience in the profession. The recent journalism school graduate previously held several student-publication leadership positions and had also written professionally. Prior to the intervention, the course's content followed typical English language arts/social studies instructional practices,

dominated by teacher-generated themes and assignments. Emphasis was on textbook references, memorization of vocabulary words, and teacher-corrected worksheets. In contrast, working together, the educator and recent journalism school graduate met weekly to integrate journalistic learning curriculum guidelines and lesson plans into the existing curriculum, including (a) student-directed choices about news stories and *beats*, (b) student-led interviews of professionals (via Skype or in-person), (c) modeling of collaboration, (d) student-led research and writing, (e) peer-to-peer feedback, (f) multiple drafts, and (g) publication on the Internet. A curricular focus was teaching students to identify credible sources and to distinguish between fact-based stories and opinion articles and commentaries. By design, the instructor team refrained from interjecting their own personal perspectives. Dispite the fact that the community heavily supported President Trump, the researchers, instructors, and school administrators did not encounter any concerns or pushback about the program from parents.

Participants

The participating middle school was located in a rural western (omitted for review) farming community with approximately 5,400 residents. According to (omitted for review) Department of Education statistics (2017), the school serves approximately 500 students in grades 5–8, and 48% of those students are considered economically disadvantaged. The sample for this study was roughly 74% white, 11% Hispanic/Latino, 9% multiracial, 4% American Indian/Alaska Native, 1% Black, and 1% Asian. About 15% of students had a specific learning disability and 7% were English learners. The journalistic learning program was conducted once per week as a component of daily English language arts/social studies class for two full classes of students. Following institutional review board-approved protocol, students who participated in this study completed anonymous surveys in two rounds of data collection. In the first phase of data collection (December 2016), $n = 51$ students completed surveys, representing 96% of participating students. In the second phase of data collection (June 2017), $n = 49$ students completed surveys, representing 95% of students who had participated in the first round of data collection.

Measures

The research team developed and administered a survey protocol to students that built from several validated, extant measurement tools, which aligned to SDT in writing and skills in collaboration and self-direction. The survey included a total of 46 items. All items were closed-ended, using a variety of response scales that depended on the survey subsection. The student survey included items from existing instruments, which have extensive past research indicating their reliability and validity for research purposes. The items were modified to focus students' attention on the journalistic learning program to measure the following constructs: (a) intrinsic motivation for writing with four items from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, García, & McKeachie, 1991); (b) task value and relevance of journalistic learning with four items from the MSLQ (Pintrich et al., 1991); (c) applied critical thinking and metacognition with six items from the MSLQ (Pintrich et al., 1991); (d) self-directed learning attitudes and behaviors with six items from the Self-Directed Learning Readiness Scale (SDLR; Guglielmino & Guglielmino, 2015); (e) relational support from teachers with three items from the Student Engagement Instrument (SEI; Appleton, Christenson, Kim, & Reschly, 2006); (f) relational support from peers with three items from the SEI (Appleton et al., 2006); and (g) flow in learning with four items adapted from the Flow Short Scale (Rheinberg, Vollmeyer, & Rollett, 2000). For those scales, response options were on a 5-point Likert scale. Additionally, we measured students' satisfaction, preparedness, and frequency of opportunities to learn collaboration (16 items) and self-directed learning using the Student MetaSkills Survey (16 items; Anonymous,

2017c). Response options were on a 1-to-5 behavioral frequency scale. All survey items are available in the appendix to this study.

As previously discussed, the measures related directly to the motivational factors from SDT that guided the design of the journalistic learning approach, specifically: (a) intrinsic motivation, (b) task value, (c) sense of competency in relevant critical thinking skills, (d) autonomy in self-direction, and (e) relatedness through relational support. The protocol followed our analytic logic to evaluate opportunities to engage in those skills, to identify students' perceptions of the effect of the learning experience, and to conduct qualitative interviews.

Data collection

The survey was administered using a paper and pencil format designed to be completed in approximately 20–25 minutes. All students receiving journalistic learning instruction at the participating school were invited to participate. Participation was voluntary and respondents were assured that their participation would not be associated with evaluation of their classroom work and that their responses would remain confidential, only used for research purposes. We used survey research best practices to make the survey experience enjoyable and efficient (Dillman, Smyth, & Christian, 2014). We surveyed students once after 10 weeks of participation and then a second time after an additional 20 weeks of participation. Our qualitative research approach included focus groups at the same intervals as the survey administration. The semi-structured interview process used the nominal group technique (Delp, Thesen, Motiwalla, & Seshardi, 1977) to ensure that all students shared their input. With the help of the classroom teacher, students were randomly picked from across the different news teams to take part in the focus groups. We conducted four focus groups of three students each in the winter and three focus groups in the spring. Students reflected on their experience in journalistic learning sharing if and how (a) their attitude toward writing shifted, (b) the program required and developed skills in critical thinking and collaboration, and (c) the program affected their approach to learning outside of the program class. Students also shared how they believed the program could improve.

Analytic plan

Closed-ended survey items were analyzed using descriptive statistics. Specifically, student responses for items within each construct were averaged to generate a mean response rating for each scale, with a mean of $M = 3$ indicating neutrality about agreement. For interpretability of these scaled means given the lack of a comparison group, we also calculated the percentage of students in agreement for each construct by indicating that they reported a mean that was greater than 3.5 on the Likert scale responses (i.e., closer to agreeing than being neutral). Additionally, a Pearson chi-square was computed to detect statistically significant changes at $\alpha = .05$ between the number of students agreeing in the first and second phases of data collection (Keppel & Wickens, 2004). To ensure internal consistency of each measured construct, we also report Cronbach's alpha. Qualitatively, we used an analytic process of convergence, complementarity, or contradiction (Creswell & Plano-Clark, 2017) to identify when themes from student focus groups did or did not support the quantitative findings through the student perspective. In light of weaknesses in the study design lacking pre-assessment or a comparison group, the qualitative analysis was included to improve our ability to triangulate the survey findings and increase our confidence in and understanding of the results.

Table 1. Descriptive results for satisfaction and sense of preparedness for opportunities to learn and apply collaboration, critical thinking, and self-directed learning in journalistic learning program.

Skills and perspective	Percent agree	M	SD
Overall satisfaction (1 item)			
Collaboration	69.23	3.90	1.26
Self-directed learning	73.59	3.89	1.10
Sense of preparedness (1 item)			
Collaboration	62.75	3.53	1.26
Self-directed learning	81.13	4.15	1.12

Note. The scale for preparedness ranged from unprepared (1) to prepared (5) and the satisfaction scale ranged from dissatisfied (1) to satisfied (5). "Percent agree" indicates the percentage of participants whose mean ratings for each factor was above 3.5, the agreement threshold on the semantic scale.

Results

The analyses tested the hypotheses driven by the design of journalistic learning through an SDT framework (see Figure 1). First, we report on the level of satisfaction and preparedness in the journalistic learning experience regarding collaboration and self-directed learning. We report on the frequency of students' opportunity to learn within those skill areas. Next, we report on students' perceptions of the experience researching and writing in the journalistic learning program and how they compare with other learning experiences in school regarding (a) intrinsic motivation, (b) value of the task, (c) flow in learning, (d) relational support in class, (e) self-direction, and (f) metacognition and critical thinking. Finally, we report on any changes identified in the percentage of students that felt a positive orientation to the program from these perspectives after an additional 20 weeks of experience. Considering the small size of the sample, internal consistency reached adequate or good levels for most constructs.

Satisfaction and preparedness

Results in Table 1 demonstrate that most students felt prepared for and satisfied with their opportunities to learn and apply skills for collaboration and self-direction in the journalistic learning program. Regarding their experience collaborating, students reported a mean satisfaction of $M = 3.90$ ($SD = 1.26$) and mean sense of preparedness of $M = 3.53$ ($SD = 1.26$). High levels of satisfaction were reported for self-directed learning at $M = 3.89$ ($SD = 1.10$) with 73.59% of participants in agreement. Students reported the greatest sense of preparedness for self-directed learning at $M = 4.15$ ($SD = 1.12$) or 81.13% in agreement. These results suggest that classroom conditions were supportive of a student-led drive to collaborate and write.

Opportunity to learn

Opportunities occurred almost every class ($M > 3.50$) for interpersonal and intrapersonal skills in collaboration and self-directed learning (see Table 2). Collaboration skills included (a) sharing ideas and giving feedback to others, (b) encouraging participation and helping partners, (c) accepting less desirable tasks and seeking help when needed, and (d) setting goals and recognizing the teams' accomplishments. Mean frequency ratings for collaborative *intrapersonal* subskills was $M = 3.58$ ($SD = 0.81$) and collaborative *interpersonal* subskills was $M = 3.64$ ($SD = 0.88$). Self-directed learning skills included (a) seeking out own interests and advice from others, (b) designing learning experiences to fit own style and goals and making adjustments, (c) getting motivated by setbacks and recognizing the role of effort in success, and (d) celebrating personal growth. Mean frequency ratings for self-directed learning ownership subskills was $M = 3.60$ ($SD = 0.76$) and self-directed learning reflection subskills was $M = 3.58$ ($SD = 0.98$).

Table 2. Descriptive results for opportunity to learn and apply collaboration, critical thinking, and self-directed learning in middle school journalistic learning program.

Skills and dimensions	M	SD	$\propto$
Collaboration			
Interpersonal (5 items): Sharing ideas, giving feedback, helping partners	3.64	0.88	.83
Intrapersonal (4 items): Accepting tasks, setting goals, seeking help	3.58	0.81	.79
Self-directed Learning			
Ownership (4 items): Seek out interests and advice, adjust learning to fit	3.60	0.76	.76
Reflection (3 items): Overcome setbacks, recognize effort, celebrate goals	3.58	0.98	.82

Note. The scale for opportunity to learn and apply items ranged from 1 – never ("did not happen during the journalism class") to 5 – every class ("every time during the journalism class").

Table 3. Descriptive results from early winter phase journalistic learning program pilot implementation.

Learning factor	Agree	M	SD	$\propto$
Improvements since participating in the program …				
Intrinsic motivation for writing (4 items)	68.63%	3.55	0.72	.65
Task value and relevance (4 items)	86.79%	3.98	0.70	.77
Critical thinking skills (6 items)	68.00%	3.73	0.71	.78
During journalistic learning …				
Self-directed learning behaviors (6 items)	56.60%	3.62	1.85	.71
Compare with other classes …				
Relationship to teachers (3 items)	42.31%	3.42	0.90	.70
Relationship to peers (3 items)	56.86%	3.43	0.86	.70
Flow and thrill in learning (4 items)	61.54%	3.63	0.90	.81

Note. "Agree" indicates the percentage of participants with mean ratings above 3.5.

Motivation and engagement to write

According to students' self-reported perceptions and attitudes during the first phase of data collection after 10 weeks of participation, the intrinsic motivation to engage and persist in writing increased as a result of their participation in journalistic learning. As the descriptive statistics in Table 3 illustrate, students reported a mean rating of $M = 3.55$ ($SD = 0.72$) for intrinsic motivation to write, indicating 68.63% of participants agreed that they challenged themselves more in writing, found it more satisfying to learn and write about topics, and were more willing to take on hard assignments. At a rate of 86.79%, most students agreed overwhelmingly that the topic and skills learned through journalistic learning were valuable and relevant to them ($M = 3.98$, $SD = 0.70$). Importantly, a mean of $M = 3.73$ ($SD = 0.71$) indicated that most students (68.00%) agreed that journalistic learning had improved some critical thinking and metacognition skills. Specifically, students appeared to question sources of information in and out of school more deeply, to listen or look closely for evidence, and think about more points of view beyond their own. While engaged in journalistic learning during this early phase, students reported wide variance ($M = 3.62$, $SD = 1.85$) in their capacity and empowerment to take full, self-directed initiative and ownership in their writing tasks (only 53.85% agreed).

As Table 3 illustrates, when asked to compare engagement in the journalistic learning experience with other classes, results showed variability. Students held more neutral opinions about their sense of relatedness through more supportive relationships with teachers compared with other classes, rating this aspect at $M = 3.42$ ($SD = 0.90$) with only 42.31% agreeing that journalistic learning improved these relationships. Regarding the effect of journalistic learning on supportive relationship with peers, students rated on average $M = 3.43$ ($SD = 0.86$) with the percentage of students agreeing at 58.86%. The majority of participants (61.54%) found greater flow in the journalistic learning experience with a mean rating of $M = 3.63$ ($SD = 0.90$) regarding their cognitive and affective engagement compared with other classes in middle school.

Table 4. Descriptive results for middle school students' motivational, metacognitive, and engagement.

Learning factor	Winter agree	Spring agree	% Increase	Spring M (SD)
Intrinsic motivation for writing	68.63	77.55	13.00	3.79 (0.89)
Task value and relevance	86.79	89.58	12.86	4.26* (0.70)
Critical thinking and metacognition	68.00	79.59	17.04	3.92 (0.59)
Self-directed learning attitudes/behaviors	56.60	85.71*	51.43	3.97 (0.68)
Relationship to teachers	42.31	71.42*	68.80	3.97 (0.74)
Relationship to peers	56.86	79.59*	39.98	3.96 (0.71)
Flow and thrill in learning	61.54	77.55†	26.02	3.88 (0.84)

Note. "Percent agree" indicates the percentage of participants with $M > 3.5$. *$p < 0.05$, †$p < 0.10$.

Did perceptions sustain over time?

Following a developmental approach to learn about the student experience in a new instructional approach, we found that several factors of interest demonstrated potential for growth. Follow-up assessment was important to ensure students' positive response was not due to the novelty of the program. If students' perspective on the experience held steady across the year, then it would support greater confidence in the results. We present the results from the follow-up survey after a full 30 weeks of participation (Table 4). Given the small sample, we chose to analyze change between survey administrations using chi-square tests to detect if more or less students indicated agreement on the Likert scale survey (a subscale mean > 3.5). We also used analysis of variance (ANOVA) group mean comparison between winter and spring responses (surveys were anonymous, so we did not track students across administrations, requiring between-group analyses). To limit the burden of the survey during the season of standardized testing, the opportunity-to-learn constructs were not included in that administration.

According to spring responses of students ($n = 49$), the percentage of students perceiving a positive effect on intrinsic motivation to engage and persist in writing trended higher from the winter to the spring as a response to continued participation in the journalistic learning program ($M = 3.79$; $SD = 0.89$). Though trending positive with a small effect, the increase was not statistically significant ($\chi^2 = 1.01$, $p > .05$) in the chi-square test or in the ANOVA, $F(99) = 2.14$, $p = .15$. There was a slight increase in the percentage of students agreeing that the topic and skills learned in journalistic learning continued to be relevant and valuable to them ($M = 4.26$, $SD = 0.70$). The resulting growth was not a statistically significant change in the chi-square test ($\chi^2 = .187$, $p > .05$) for percent agreement, but the group mean comparison demonstrated a statistically significant improvement, $F(99) = 3.99$, $p < .05$, and a medium effect size, $d = 0.40$. Additionally, the percentage of students agreeing that the journalistic learning program had improved some of their critical thinking and metacognition skills improved slightly but not at a statistically significant level ($\chi^2 = 1.72$, $p > .05$; $F(99) = 1.99$, $p > .16$). Importantly, after additional months in the program, students responded that they felt more self-determined and able to take full initiative and ownership in learning than in the winter responses. The percentage of students that agreed journalistic learning fostered their self-direction increased from 56.60% to 85.71% during the 6-month period, a statistically significant 51% increase ($\chi^2 = 6.54$, $p < .05$). The increase in mean rating ($M = 3.97$, $SD = 0.68$) change was statistically significant, $F(49) = 7.11$, $p < .05$, at a medium effect size, $d = 0.50$.

Student engagement trended in a positive direction as well. Over the extended time in the program, middle school students reported an increase in their sense of relational support from teachers. The percentage of students in agreement increased 69% ($\chi^2 = 8.70$, $p < .05$) and the mean rating ($M = 3.97$, $SD = 0.74$) increased overall, $F(49) = 11.48$, $p < .05$, at a medium-to-large effect size, $d = 0.67$. Additionally, students' sense of relational support from their peers in journalistic learning compared with other classes improved with a 40% increase in percent of students agreeing ($\chi^2 = 5.93$, $p < .05$) and a mean rating increase ($M = 3.97$, $SD = 0.71$) that was statistically significant, $F(49) = 11.21$, $p < .05$, at a medium-to-large effect size, $d = 0.67$. By the spring,

77.55% of middle school students reported greater flow in the learning experience in the journalistic learning classes compared with other classes in middle school. That change represented a marginally significant 26% increase from the percentage of students agreeing in the winter survey ($\chi^2 = 3.04$, $p < .10$) and nonsignificant change in mean rating, $F(49) = 2.19$, $p > .05$.

In sum, though some of the changes from the winter to the spring in factors related to students self-determined motivation and engagement in writing were not significant, all of the changes were in the positive direction, indicating that response bias due to students' reaction to the novelty of the program or self-presentation bias due to social desirability was unlikely. Student responses indicated that their perspective on the program improved during additional months of engagement, especially regarding their sense of its value and relevance, their sense of relational support from teachers and peers, and their self-directed attitudes and behaviors. To increase confidence in these initial findings within a developmental, nonexperimental design, we analyzed the qualitative data using thematic coding for themes that paralleled the survey.

Triangulation of qualitative findings

We aligned organization of themes from qualitative findings to the reporting of quantitative survey results. We begin with opportunities provided by the journalistic learning experience to collaborate and be self-directed in writing, then move onto motivational factors, and end with an analysis of students' full retrospection at the end of the school year.

Opportunity to collaborate

Students appreciated and enjoyed the opportunity to collaborate in groups with other students. At least one student in each focus group reported that they had little experience with the kind of deep collaboration that journalistic learning demanded, where individual success was interdependent with shared success of the group. They shared that it was uncommon to work in groups at their school and, when they did collaborate, it was not always enjoyable. One student noted that the nature of the work contributed to whether or not group work was beneficial: "In subjects I don't understand as well, I would like to work in a group. But in math I would just prefer, like give us a packet and leave us alone." Other students across focus groups related a common challenge with group work, emphasizing that the size of the group made a difference in whether or not it was enjoyable and/or helpful in promoting group productivity:

Student 1: Because our group in journalism is the biggest group, and that's why we had the most problems.

Student 2: Yeah, we had the most people getting stressed out, getting annoyed, and wanting to go to a different group. There was [sic] many people that wanted to take charge over the group and …

Student 1: But, sometimes it just didn't work out.

The size of the group was also related to an additional challenge students faced in doing group work, which was delegating roles and working within those roles to meet group deadlines. The challenges inherent in organizing students into working groups, especially students who are not used to developing group norms and working dynamics, were echoed by an interview with the classroom teacher. She acknowledged that some students encountered challenges based on their collective limited experiences with group work but that the process was still beneficial to the students and provided her with a learning experience and opportunity to grow in the future.

While several students reported that journalistic group work could be frustrating and that they did not always feel that their voice was heard by group members, they recognized benefits of working together, such as sharing the workload and being able to share ideas and ask questions of each other. As one student stated, "You can work together and have more varieties of ideas. Say, if you're thinking up an idea, and instead of just a couple of people, there's many varieties

of ideas and things that you could think of." Another student enjoyed the social and motivational aspects of interacting with other students in the classroom: "You can do it [work in a group] with a lot of your best friends, and you could also become friends with other people as well, during the group."

In terms of collaborative productivity, one student reported that group work made a difference in perseverance: "If we get frustrated, there's always someone to kind of like pull you through, say it's okay and you start again." A student in another focus group noted a similar perspective: "Yeah [I like working in groups], because whenever I'm stuck on something and … we have to do it alone, no one can help me with it, and I get stuck and I just give up." The collective power of working in a group on a research and writing project was a benefit several students mentioned, with one student reporting, "Well, sometimes if I'm working by myself, and I get confused, I don't get what to do, but when we have a big group we can all work together and get everything done."

> Interviewer: What do you like about working in groups?
>
> Student 1: Because one person doesn't have to do all of the work. It's an equal amount of work throughout everybody.
>
> Interviewer: So did you feel like everybody was able to contribute to your final project for journalism working in a group?
>
> Student 2: Yes
>
> Student 1: We all came up with some questions.

Across focus groups and time periods, students generally characterized the collaborative experience in journalistic learning as a balance of compromise, shared decisions and workload, inclusion of all group members, peer-editing, sharing of diverse perspectives, fun social engagement, and exchange of shared interest.

Self-directed interest and motivation

In general, students reported positive attitudes with the opportunity to identify and follow their interests in their journalistic writing projects. For one student, the ability to choose a group based on the topic opened up new avenues of interest exploration: "I picked the art beat. I was either going to be the art beat or the sports and dance beat. I'm interested in both, but I do sports already and I don't really do too much with art currently, this season, so I was trying to figure out what would be better."

Students reported that their teachers' expected they would complete most of the project activities on their own, with the exception of some assistance with scheduling the actual interviews. They were given the option to participate in the *news beat* of their choice, decide as a group which community members to build into their story and interview, develop interview questions on their own going deep into the topic, and reach out to the interviewees to determine their interest in participating. One student said, "I think it was kind of cool that she gave us all these options and we got to choose our own instead of just trying to give us something and have to search it up and you don't know really anything about it." Several students noted that they especially enjoyed the process of doing individual research to select their interview subject and to help inform the development of their interview questions, suggesting that students were empowered and engaged by the ability to bring their own interests to the writing assignment. Some students indicated that they learned about the importance of the pre-interview research: "I also think the research part of it was important, because before we did the interview we had to come up with 20 questions, and so when you research … you can find stuff that already answered your question, so first you have to research a while about the person to finally get the questions."

Students in all of the focus groups commented on the importance of how their individual interests drove their writing process. It appeared that their sense of value and meaning in the classroom learning tasks were enhanced by the fact that they were interviewing professionals from the community and developing stories that would be published for a public audience outside of their classroom.

Glancing backward

The spring focus groups were semi-structured to ask students to reflect on their experiences in journalistic learning during the past school year. All students shared that they applied the research tools and critical thinking they developed for the writing process to other classes, "going outside of Wikipedia" for source material, as well as comparing and vetting different online sources. Students shared they believed the interviewing process from the journalistic learning work made them less nervous to speak in public or in front of their class. As one student noted, "I was really shy before we did that [the interviews] and now I'm not as shy any more." Another student reported similar increased confidence when speaking in front of a large group on a field trip to a local university's journalism program: "We went up and we had to say two sentences each about a website we made and so he [the student's partner] was kind of nervous. But I wasn't. I used to be nervous around people but now I'm not, because of journalism."

Across focus groups, students shared that the journalistic learning process enhanced their ability to ask deeper questions when they are engaging with others. One student noted, "Well, it [journalism class] just helped get through the deeper part, like find the better questions to ask and get better answers in response." Relatedly, two students suggested that one of the best experiences they had in the journalistic learning process was debating others on topics of interest; others commented that listening to the opinions of others was one of the hardest challenges across the entire experience. That perspective reflected the role of critical thinking development that the survey results suggested. In retrospect, students shared the personal significance of interacting with and learning from professionals, who they interviewed, and journalism students and professionals they met on their university visit. The process of preparing for, conducting, and writing up their own interviews appears to have made the writing process more motivationally conducive and intrinsic. When students shared opinions about the progress of their writing skills, positive responses resonated with the trends detected in the survey. One student reported increased writing skills from participation in the journalism curriculum, saying, "I also enjoy that it's actually a huge thing about writing in a journalism class instead of just one little period of just writing a story, or writing what we did this weekend, like we used to do in fifth grade."

Discussion

In this exploratory study, we investigated the student experience of collaborative writing through a journalistic approach integrated into typical middle school language arts/social studies instruction. Specifically, this study tested the theoretical alignment between a journalistic learning approach and motivational orientations of self-determination theory (Deci & Ryan, 1985, 2011). The study used survey methodology to explore whether a journalistic learning approach can contribute to a middle school learning environment that prioritizes intrinsic and integrated motivation to write. Findings supported the hypotheses established by SDT and past research on the benefits of journalistic learning practices. Overall, students experienced regular opportunities to learn and apply learning skills in collaboration and self-direction. Students perceived some improvement in their (a) intrinsic drive to write; (b) their cognitive and affective engagement, or flow, in the writing process; (c) their competency for critical thinking and metacognition in their research and writing; (d) their autonomy to be self-directed in their writing; and (e) their

relatedness in the classroom environment through relational support of teachers and peers. Those perceptions sustained or improved with more intensive and sustained time in the program. Themes from qualitative data converged with findings from the survey, demonstrating, for instance, that relational trust in peers took time to develop within the collaborative demands of journalistic learning.

Though developmental, this study provides evidence of promise for a journalistic approach to motivate students to write across various topics germane to the world around them, in and out of school. Implications demonstrate the need for learning and expression through writing and publication to be social and interest-driven on a personal level during adolescent development. Our results highlighted the fundamental needs of autonomy, belonging, and competency in the research and writing process through a journalistic approach. The audience that students aim to reach through their written work, even as early as 6th grade, can play a key role in how students instrisincally approach an assignment driven by extrinsic authority. Students's self-determination in writing may be a key lever to enhanced commitment to the craft and skill development.

Fueling students' drive to write

The results of this study support past research-based frameworks and empirical findings that suggest agentive stancetaking, personal interest, and the development of self-efficacy in writing are all key motivators for early adolescent learners (Bruning & Horn, 2000; Jeffery & Wilcox, 2014; Saddler, 2012). Students followed their interests and engaged with their teachers and peers for guidance, developing what Reeve (2013) termed *agentic engagement*. Reeve (2013) proposed that agentic engagement is reciprocal between teacher and student and plays a role in how students will approach challenging tasks, such as writing. As students apply and request more agency in their learning experiences, their teacher must respond to provide learning conditions that support that autonomy. Students' perceptions of relational support from both teachers and peers increased across the full 30 weeks of their journalistic experience alongside increases in their flow experiences in writing and their self-directed attitudes and behaviors related to writing. Those simultaneous increases suggest a reciprocity theorized within agentic engagement (Reeve, 2013).

The overarching role of group collaboration makes the social aspect of writing a key motivator with reciprocity in seeking and providing support. Neuroscience of adolescent development suggests that students are highly motivated by peer-to-peer interactions and opportunities to engage socially throughout the learning process (Armstrong, 2016) and, according to students, the writing process is no different. Indeed, cutting students off from that need for social engagement or the deeply entwined emotional-cognitive experience of learning handicaps adolescent learners (Immordino-Yang, 2015). Moreover, meta-analyses indicates that peer-editing increases quality of writing (Chang et al., 2018). If educational experiences can be designed to make peer-to-peer interactions meaningful in the learning process and supportive of relatedness and belonging, the learning experience can tap into these fundamental drivers of adolescent development to enrich the experience and leave students wanting more. The early findings suggest journalistic learning provides comprehensive learning experiences in both collaboration and self-directed learning, potentially capitalizing on these fundamental motivational needs in ways that other instructional approaches to writing may struggle to integrate.

Individual interest

By design, a journalistic learning experience evolves from student interest. While many middle school writing assignments can be highly prescriptive based on a set curriculum and sequence of skill development, they often do not offer opportunities to experience a sense of agency in the learning process (Jeffery & Wilcox, 2014). However, a journalistic learning approach places

students and their intrinsic interests in the driver's seat of the writing process. As the results suggest, there may be a link between students' self-direction, guided by personal interest, and their flow and enjoyment in the writing process, as our results indicate. Journalistic learning may catalyze intrinsic motivation to write and internalize extrinsic motivation or situational interest elements, such as reaching a deadline to publish material online. It matters that students want to write more, care more about what they are writing, and feel self-efficacy to tackle challenges through their own direction. Still, by middle school, social pressures toward conformity may make it hard for some students to recognize and express their individual interests publicly. A journalistic classroom approach can empower and validate their unique voices.

Fundamental needs

According to Deci and Ryan (1985, 2011), during the *internalization* process of extrinsic motivations, typical to middle school writing assignments, autonomy, competency, and relatedness are each necessary for a student to endorse and take ownership of tasks and deadlines that may otherwise feel externally controlled. The findings from this study support that assertion and show, as Deci and Ryan noted, that autonomy is not necessarily experienced as a solo endeavor. When teachers scaffold the writing experience through a journalistic learning approach, students' gradual development toward competency through modeling and guidance may be a prerequisite to pursuing autonomy in writing. The results from this study suggest that, with enough sustained engagement, journalistic learning may enhance the relational trust between teachers and students and among students themselves. An increased sense of community likely emerges from learning to listen to the opinions of others and debate respectfully, to give and receive feedback, and experience the shared vulnerability of editing toward publication. As in a collaborative newsroom, students connect through their unique interests, the challenging pursuit of writing, and the thrill of sharing original written work with the broader community. Theoretically, those fundamental needs are necessary conditions for that cognitive and affective engagement in writing that produces a flow experience.

An audience matters

As Magnifico (2010) described, completing a writing assignment that originates from a place of personal interest intended for a specific audience, important to the author, can shift the writing experience for students. This shift from what the teacher assigns to what the student wants to pursue may add a deeper sense of authorship. Intrinsically motivated writing endeavors occur as *internalized* self-expressions that are personally fulfilling rather than as the completion of an assigned task for teacher approval or avoidance of a bad grade. This type of publication experience also exposes students to potential career and technical education opportunities that may encourage new directions in their secondary education.

Limitations

In this study, there were multiple aspects that require caution in the interpretation of the results. As a pilot study, the sample size was small and limited to a single teacher in a single school. The small size of the sample limited the rigor of the analyses that could be run. The use of a comparison or control sample was not practical nor in line with the developmental approach adopted. Still, without a comparison sample, it was not possible to rule out other possible causes of the promising effects detected. Though two waves of data collection demonstrated sustained or improved effects over time and qualitative data from focus groups converged on quantitative

findings, response biases could still be an issue. Given the scope of the study, it was also not possible to include standardized writing tests in the analyses. All of these limitations limit this study to suggesting promise for this approach and should be considered in future research in this area to demonstrate efficacy of the approach.

Implications for research on writing

The theoretical framework driving this study incorporated a set of skills and dispositions that are increasingly of interest to educators, policymakers, and researchers (Greiff & Kyllonen, 2016; Lench et al., 2015). In the context of writing, opportunities to practice and apply collaboration, critical thinking, and self-direction in learning may underlie the positive motivational orientation indicated by the results. For instance, developing deeper questioning and empathetic listening skills through journalistic learning may foster more affective engagement with the material to produce higher quality work, increase a sense of pride and self-efficacy, and stimulate further intrinsic interest and inquiry in the subject area. The development of these thinking skills alongside the technical aspects of writing may provide an important synergy that enhances the learning experience. To understand this link further, future research should evaluate writing performance tasks for evidence of both domain-specific technique and domain-general skills, such as collaboration, critical thinking, and self-direction, and measure the role of intrinsic and extrinsic motivators at different stages.

The results from this study provide several directions for research of journalistic learning experiences and other types of writing instruction that are driven by student interest and emphasize publication. The evaluation of writing interventions should consider the motivational orientations and environmental conditions that the design of the experience will likely produce for students. Such evaluations should also consider measuring the actual inputs of the learning experience, such as the opportunities to engage in the complex processes of collaboration and self-direction. Intrinsic and extrinsic motivations should be measured alongside outcomes to understand the potential mediating or moderating role that they may play. The results from this study suggest that a multidimensional and sociocultural approach to theorizing and studying adolescent motivation and experience in the writing process can apply SDT effectively. Clearly, the social experience of journalistic learning played a role in motivation to write. Both ethnographic and experimental research can inform descriptive and explanatory clarity.

Implications for practice

Given the wavering attention provided to writing instruction, the results from this study provide several insights for instruction that warrant continued consideration and pursuit by the field. First, placing a younger mentor with recent training in journalism that balances the pedagogical training of a certified teacher partner can be an effective coaching and collaboration method to motivate adolescent students to write through a journalistic approach. That collaboration may help to foster classroom conditions that replicate the real-world experience in a journalism newsroom. Second, through the SDT lens, student agency, expression, and social interaction appear to be pivotal mechanisms through which journalistic learning motivates writing. The general framework described in this study need not apply only to English language arts or social studies. New standards have demanded attention to writing across the curriculum and for the writing practices to be varied in style to meet the needs of different disciplinary areas and audiences. This approach may be one way to develop student skill in writing and their intrinsic motivation to engage and persist in the challenge, further preparing them for the demands of college and career. As the adage goes, *good writing is good thinking*. This study identified critical thinking skills that are commonly demanded across disciplines, from history to science, for students to organize,

pursue, and refine their writing process. The journalistic disciplinary lens on writing need not replace the disciplinary lens of science, for instance. Adherence to principles of journalistic writing to build a strong narrative with multiple perspectives and accurate reporting of facts is not so disimlar from building a strong argument in scientific reporting. This study suggests that the application of a journalistic learning approach into a discipline, such as science, could enhance students' discipline-specific vocabulary, interest in the everyday practical implications of scientific concepts, and motivation to pursue science understanding further.

Finally, curriculum developers, instructional designers, and professional development providers should consider how a journalistic learning approach within an SDT framework might support their objectives and enhance student motivation to write. Though more research is needed, the explicit modeling, development, and assessment of collaboration and self-direction skills may be a critical consideration for the design of writing instruction generally. Moreover, the journalistic approach emphasizes publishing––the sharing of work to a broader audience beyond classroom peers and teachers. Though an extrinsic motivator, journalistic learning experiences may foster internalization to encourage effort, ownership, and self-efficacy and can be relevant across subject areas as a form of assessment.

Conclusion

Innovations in writing instruction need greater attention in both practice and research in order to prepare students in adolescence for the rigorous demands of most college and career pathways, as well as to provide the benefits of writing to personal fulfillment in life, more generally. Motivating students to engage, persist, and enjoy the writing process should be one of the primary objectives of future development work. The results of this study highlight the promising potential of an approach to writing instruction that builds from the principles and practices of professional journalism. Students reported higher rates of motivation, self-efficacy, metacognition, critical thinking, relational support, and flow and excitement in the writing process, and these results sustained or grew with more time. The collaborative, social experience with both peers and professionals from diverse fields was a highly salient and replicable feature, mimicking the buzz of a newsroom. Future research in this area can inform which specific experiences at different stages of the writing process catalyze intrinsic motivation and learning skills most effectively. If writing becomes an agentic, enjoyable experience in adolescence, the skill can serve learner inquiry and expression for a lifetime.

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