Young Children’s Self-Regulated Learning and Contexts That Support It

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Writing and portfolio activities provided a context for examining relations between classroom contexts and young children’s self-regulated learning (SRL). Data collection spanned 6 months and included weekly visits to Grade 2 and 3 classrooms during regularly scheduled writing and portfolio activities. Data included teacher questionnaires and observations and student questionnaires, observations, and interviews. Young children deliberated about how to regulate writing and demonstrated either mastery or performance orientations as a function of classroom-specific tasks, authority structures, and evaluation practices. Findings support sociocognitive models of learning regarding how classroom contexts affect students’ beliefs, values, expectations, and actions. Also they challenge assumptions that young children lack the cognitive sophistication required for SRL and do not adopt motivational orientations that undermine it.

Contemporary writings on school reform emphasize the need for students to develop skills and attitudes for self-regulated lifelong learning (Palinscar & Klenk, 1992; Paris, Lawton, & Turner, 1992). The term self-regulated is typically associated with learners who are metacognitive, intrinsically motivated, and strategic (Zimmerman, 1990). These students are aware of task demands and their abilities to meet them; they have high efficacy for learning and attribute outcomes to factors under their control (e.g., effort and strategy use); and they have a repertoire of effective learning and problem-solving strategies that they apply appropriately. The term self-regulated also is used to contrast an approach to learning that has been referred to as defensive (Paris & Newman, 1990) and self-handicapping (Covington, 1992). Students who adopt this latter approach typically have low efficacy for learning and avoid failure and damage to self-esteem by seeking easy tasks, procrastinating, or avoiding work altogether. Not surprisingly, this approach to learning impedes academic success (Winne, 1995; Zimmerman & Bandura, 1994).

The preponderance of research on academic self-regulation has involved students in upper elementary grades through college. Although studies have documented young children’s use of strategies to complete simple tasks (i.e., memory and vocabulary learning), most self-regulated learning (SRL) theorists assume that children under age 10 have difficulty coordinating the cognitive and metacognitive processes required to complete complex, multifaceted tasks, such as writing a research report (Pressley, Forrest-Pressley, Elliott-Faust, & Miller, 1985; Winne, 1997; Zimmerman, 1990). Also, theory and research concerning motivation suggest that young children are protected from defensive motivational patterns that undermine SRL by their tendency to view ability in incremental terms, rate their ability highly, and expect to do well so long as they exert effort (Cain & Dweck, 1995; Paris & Newman, 1990). However, recent studies have documented negative affect and nonpersistence in the face of failure, attributions linking outcomes to ability, and low expectations for future success in children age 4–7 years (e.g., Cain & Dweck, 1995; Stipek, Feiler, Daniels, & Milburn, 1995; Turner, 1995). These findings support attempts to discover ways of encouraging students to adopt skills and attitudes associated with SRL early in their school careers rather than waiting until the intermediate grades, when attitudes and actions associated with academically ineffective behaviors are well formed.

Studies of instructional contexts offer insights concerning this problem. For example, Stipek et al. (1995) compared children age 4–6 years in child-centered classrooms with children in teacher-directed classrooms in terms of their self-perceptions, expectations for success, preference for challenge, and independence. In child-centered classrooms, children had choices within a set of diverse activities and materials in an atmosphere that encouraged peer interaction. Teachers embedded instruction in activities that were meaningful to students and were characterized as nurturing, respectful, and responsive in their interactions with children. In teacher-directed classrooms, learning was predominantly teacher controlled and focused on basic skills presented apart from authentic activities. There was an emphasis on performance, and teachers used external evaluations and rewards and made social comparisons. Children in the teacher-directed classrooms rated their abilities significantly lower than students in child-centered classrooms, had lower expectations for success on academic tasks, chose simpler tasks, and were more dependent on adults to define tasks and evaluate outcomes. Also, these students evidenced less pride.
in their accomplishments and worried more about school than students in child-centered classrooms.

These findings support sociocognitive models of learning that prompt researchers and teachers to consider how classroom task structures, authority structures, and evaluation practices influence students' beliefs about themselves as learners, their goals and expectations, and their decisions about how to regulate their behavior in school (Pintrich, Marx, & Boyle, 1993). Proponents of these models suggest that to develop effective forms of SRL, students need to be involved in complex meaningful tasks, choosing the products and processes that will be evaluated, modifying tasks and assessment criteria to attain optimal challenge, obtaining support from peers, and evaluating their own work (Paris & Ayres, 1994; Pintrich et al., 1993; Turner, 1995). Also they suggest that SRL is more likely to develop when teachers guide rather than direct students' learning, acting as facilitators or coaches rather than managers (Brown & Campione, 1994). In this role, teachers provide instrumental support to students. They carefully orchestrate instruction to ensure that students acquire the domain and strategy knowledge they need to operate independently, help them make appropriate choices, encourage them to expand their developing abilities by attempting challenging tasks, and use nonthreatening evaluation practices that encourage students to focus on personal progress and interpret errors as opportunities to learn (Moll & Whitmore, 1993; Paris & Ayres, 1994).

To date, very few studies have investigated SRL or its correlates (e.g., intrinsic motivation) in naturalistic settings (i.e., classrooms). More typically, studies of SRL rely on students' self-reports without regard for contextual factors, or they design interventions that provide optimal but decontextualized environments for SRL to occur. Stipek et al.'s (1995) findings and sociocognitive models of learning suggest that research now needs to examine SRL occurring naturally in classrooms and identify features of classroom contexts that promote or impede it.

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Along these lines, Turner (1995) has examined how reading tasks affect young students' intrinsic motivation, a component of SRL. She observed as students in 12 Grade 1 classrooms engaged in literacy activities and distinguished between open and closed task structures. Open task structures provided students with opportunities to choose what they read (mainly trade books), as well as where and when they read. This enabled students to choose materials that were personally meaningful and at an appropriate level of difficulty. Open tasks often included partner reading and authentic writing tasks (e.g., writing party invitations and making birthday cards after reading a story called "Clifford's Birthday Party," Bridwell, 1998). Students often worked in groups, where they could observe others working on similar tasks and ask for help. Teachers who assigned open tasks tended to teach skills associated with reading in the context of authentic reading activities (e.g., teaching print concepts as they appear in a book the class is reading), modeled strategic thinking and problem solving (e.g., making predictions), reminded students to use strategies, and explained why they were useful. Also, they discussed metacognitive strategies appropriate to complex reading tasks (e.g., making good use of resources, monitoring progress, and persisting when faced with difficulties).

In contrast, in closed task structures, the teacher or the task indicated what materials and information would be used by students and what would be the finished product. Therefore, students had limited opportunities to make decisions or control their learning. Teachers tended to assign identical seat work to all students, encouraged them to work independently, and provided instruction in the context of teacher-directed reading groups. Typically, students practiced basic reading skills apart from authentic reading activities (e.g., completing matching or fill-in-the-blank exercises to automatize decoding skills).

Turner (1995) has observed more evidence of intrinsic motivation in classrooms where open tasks were the norm. In these environments, students used more strategies, exercised more volitional control, and persisted longer when faced with difficulties. Her interviews indicated that students who experienced predominantly open tasks were more metacognitive and more focused on the meaningful aspects of reading tasks. These findings provide important evidence concerning relations between instructional contexts and young children's understanding about and engagements in literacy tasks. Open task structures offered students more opportunities to develop skills and attitudes associated with SRL (i.e., intrinsic motivation, metacognition, and strategic behavior), and consequently, they did. According to Turner, the complex and varied tasks assigned in open task environments required students to adapt strategies and use a range of strategies. Also, making students more responsible for their learning and giving them opportunities to adapt tasks to suit their interests and control challenge resulted in greater personal investment.

To date, no studies parallel Turner's (1995) investigation of young children's SRL in the context of writing. However, studies involving students in intermediate grades through college indicate that writing activities, particularly when they engage students in all aspects of the writing process (planning, drafting, editing, and revising), present rich contexts for observing SRL (Graham & Harris, 1994; Zimmerman & Bandura, 1994). Process approaches to writing view writing as a complex problem-solving activity and emphasize the need to engage students in writing for authentic, communicative purposes about topics that hold meaning for them (Flower & Hayes, 1984; Graham, Harris, MacArthur, & Schwartz, 1991). In carrying out these activities, students are involved in high-level cognitive activities such as planning, allocating resources (e.g., time, space, and information), monitoring goals and purposes, and persisting when faced with difficulties (e.g., writer's block, multiple revisions; Zimmerman & Bandura, 1994). Teachers guide rather than direct students' writing by discussing and demonstrating strategies for planning and revising text, involving students in evaluating their writing products, and encouraging them to collaborate with one another (Englert, Raphael, Anderson, Anthony, & Stevens, 1991; Graham et al., 1991). Process approaches to writing contrast with skills-oriented models, which reflect beliefs that proficient
writing results from teaching specific skills in isolation and in a hierarchical sequence (Needles & Knapp, 1994).

Many primary school teachers are combining process approaches to writing instruction with portfolio assessment. Portfolios are associated with nonthreatening, noncompeting evaluation practices that are believed to encourage attitudes and actions associated with SRL (Pintrich et al., 1993). If implemented as intended, portfolio activities involve students in choosing what goes into their portfolios, generating criteria that will be used to evaluate, and evaluating the contents of their portfolios (Paris & Ayres, 1994; Paris, Turner, Muchmore, & Perry, 1995). Furthermore, because portfolio assessment is embedded in students’ daily routines and targets their individual goals and needs, it is nonthreatening. Students have multiple and varied opportunities to demonstrate their learning, and teachers are encouraged to interact with students during assessment, scaffolding their choices, challenges, and self-evaluations, emphasizing mastery goals, and helping them to interpret errors as opportunities to learn (Paris et al., 1992; Wolf, Bixby, Glen, & Gardner, 1991).

The assumption that process approaches to writing instruction and portfolio assessment present numerous opportunities to observe young children’s SRL needs to be tested empirically and in naturalistic contexts. One study that documents teachers’ independent implementations of portfolios suggests that their practices vary widely (Calfee, 1994). Similarly, wide variations in teachers’ implementations of process writing programs have been documented, even in studies where teachers have been guided by carefully designed interventions of researchers (Anderson, Raphael, Englert, & Stevens, 1991). Apparently, designing and implementing activities that are aligned with sociocognitive models of learning (i.e., process writing and portfolio assessments) pose formidable challenges for teachers schooled in skills-oriented environments (Needles & Knapp, 1994). These findings underscore a need to document the range of writing and portfolio activities across classrooms and to distinguish between environments more and less likely to promote SRL before beginning to characterize students’ engagements in them.

My study examines relations between particular features of writing and portfolio activities and SRL in five Grade 2 and 3 classrooms. Specifically, I investigate the nature of writing tasks, authority structures, and portfolio evaluation practices in these classrooms and their effects on students’ (a) perceptions of control and support, (b) beliefs, values, and expectations concerning writing, and (c) regulation of writing behaviors.

**Method**

**Design and Participants**

Appendix A outlines the design of my study. I collected data in three phases, spanning 6 months (January through June 1995), using a multiple and embedded case study design (Yin, 1989). In Phase 1, 19 Grade 2 and 3 teachers in a large suburban school district in British Columbia responded to a questionnaire that gauged the extent to which writing and portfolio activities in their classrooms were consistent with those theorized to promote SRL (i.e., activities were complex and offered students opportunities to make choices, control challenge, collaborate with peers, and evaluate their work; teachers’ interactions with students resembled descriptions of scaffolded instruction or guided discovery). This questionnaire and the other instruments used in this investigation are described in detail in the next section. On the basis of teachers’ responses, I ranked classrooms to reflect the degree to which writing and portfolio activities within them were consistent with those thought to promote SRL. Then I selected five classrooms for more detailed observation (four Grade 2/3, one Grade 3). Selections were based on classrooms’ relative ranking concerning activities thought to promote SRL, three high and two low, and teachers’ willingness to allow researchers to observe writing and portfolio activities in their classrooms once or twice each week for 6 months.

In Phase 2, 94 students from these five classrooms (47 boys and 47 girls, 35 Grade 2 and 59 Grade 3 students) were surveyed concerning their perceptions of control and support in their classroom and their beliefs, values, and expectations concerning writing. Also, teachers ranked their students in terms of writing achievement. On the basis of these rankings, 10 students, 2 from each classroom, 1 high and 1 low achiever, were selected, and their SRL was studied in Phase 3. Teachers of split-grade classrooms chose to rank their Grade 2 and 3 students together because all students in their classrooms participated in the same writing activities. Students in both grades appeared in the top and bottom quartiles of each teachers’ rankings. Subsequently, 3 high-achieving Grade 2 students and 2 low-achieving Grade 3 students were selected for Phase 3. Six of the 10 selected students were in Grade 2.

Table 1 contains demographic information for the five selected classrooms and the larger pool of classrooms from which they were drawn. Teachers in selected classrooms, like those in the larger group, varied in terms of their teaching experience and the number of years they had been using portfolios to evaluate students’ writing. Kathy (all names are pseudonyms) had been teaching for 4 years and was using portfolios for the first time. Laura had been teaching for 26 years and had been using portfolios for 4 years. The remaining three teachers, Nan, Linda, and Peter, had 9, 10, and 16 years of teaching experience, respectively. Peter, like Kathy, was implementing portfolios for the first time, whereas Nan and Linda had been using portfolios to evaluate students’ writing for 5 and 8 years, respectively. The average number of students in selected classrooms was 22, and no class had more than 25 students. These figures are consistent with those for the larger pool of classrooms.

Each of the selected classrooms was located in a middle- to high-middle-socioeconomic status neighborhood and included at least 1 student with special needs and 1 student who spoke English as a second language. These characteristics also reflect those of the larger pool of classrooms. Students with severe learning disabilities and those whose command of English was judged insufficient to comprehend questionnaire and interview questions were excluded from the study.

**Data Collection and Analyses**

The 6 months of data collection included weekly visits to the five selected classrooms during regularly scheduled writing and portfolio activities.

**Phase 1.** The questionnaire used to select classrooms for in-depth observation was divided into four sections: Section A asked for demographic information about teachers and their students (as shown in Table 1). Section B asked for information about teachers’ approaches to writing instruction (e.g., the extent to
which teachers tailored instruction to meet the needs of students vs.
their curricular goals and the extent to which instruction focused on
meaningful vs. mechanical aspects of writing). Sections C and D
asked for information about students' engagements in writing and
portfolio activities, including the extent to which students partici-
pered in making decisions about their writing and portfolios,
evaluated their work, and consulted and collaborated with peers.
Most questions in Sections B–D asked teachers to rate how
frequently particular actions occurred in writing and portfolio
activities in their classrooms (e.g., "How often do students
evaluate their writing products/progress?"). Ratings corresponded
to a 5-point scale, ranging from never (1) to always (5). Some
open-ended questions elaborated on teachers' ratings (e.g., "If
students evaluate their writing, what form does that evaluation
take?"). Teachers' ratings in Sections B–D were grouped to form
categories, derived from previous investigations, as follows: (a) types of choice
(b) control over challenge (c) opportunities for self-evaluation (d) support from peers,
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categories, derived from previous investigations, as follows: (a) types of choice
(b) control over challenge (c) opportunities for self-evaluation (d) support from peers,
choice of topics received a rating of 2. These ratings were entered in a summary table for each class, to generate a profile of the consistency with which writing and portfolio activities in a given classroom were high SRL across my five visits. Finally, classrooms were assigned a consistency rating for each category, indicating how consistently, across my five visits, each category was present in writing and portfolio activities at a level thought to promote SRL. These ratings corresponded to a 5-point scale; ranging from never (1) to always (5).

A second rater observed a writing and a portfolio activity in two of the five selected classrooms, using my observation instrument and coding procedures. These observations were conducted on two separate occasions while I also observed in these classrooms. Before observing in classrooms, the second rater participated in a 3-hr training session, in which I explained the kinds of information to record on the observation instrument and how to code it. Then the second rater used copies of my running records to practice identifying and rating the quality of instances of choice, control over challenge, self-evaluation, and support from teachers and peers. We compared examples and ratings and discussed discrepancies before observing in classrooms. After observing in classrooms, we coded our own running records and then coded one another’s. We achieved an 88% level of agreement across all ratings, a level of agreement 79% greater than would be expected by chance alone (κ = .79). When we discussed the differences between our ratings, we achieved 100% agreement.

Phase 2. In Phase 2, students in the five selected classrooms completed two questionnaires. Both were administered in small groups of 5 or 6 students, enabling me to observe and help students if any had difficulty with particular questions. Both questionnaires were administered during one 30-min session. The sequence in which the questionnaires were administered alternated across groups. At the beginning of the session, I explained that there were no right or wrong answers to questions I would be asking and that students might have different answers than the person sitting beside them, “since we don’t all think the same things about writing and portfolios.” Then I directed students’ attention to the first question and instructed them to circle the option they thought was typically true in their classroom or about them. For both questionnaires, I read each item aloud and discussed the options in the rating scales.

One questionnaire targeted students’ perceptions of control and support in writing activities by asking them to rate, on a 5-point scale ranging from 1 (never) to 5 (always), 20 items concerning how often they had opportunities during writing and portfolio activities to (a) make choices (7 items, e.g., “How often do you decide what to write about?”), (b) control challenge (6 items, e.g., “How often do you decide how to revise your writing?”), (c) evaluate their work (2 items, e.g., “How often do you evaluate your own writing?”), and receive support from their (d) peers (4 items, e.g., “How often do students help you to edit your writing?”) and (e) teacher (1 item, “How often does the teacher help you decide what to put in your portfolio?”). These items were initially grouped to form five scales matching those used to analyze data from the teacher questionnaire in Phase 1. However, these scales yielded erratic and generally low internal consistency alphas, ranging from .17 to .69. Therefore, the five scales were regrouped to form two conceptually linked and more internally consistent scales. The first combined the choice, challenge, and self-evaluation scales, to reflect students’ perceptions of control over learning (15 items, α = .73). The second combined the two scales that reflected students’ perceptions of support from their teacher and peers during writing and portfolio activities (5 items, α = .66).

The perceptions of control and support questionnaire also included an open-ended question, “What would you want me to notice about your writing, if I looked through your portfolio?” 1, along with a second rater, derived a set of categories to summarize students’ responses to this question. Then we coded students’ responses independently and compared our results. We achieved an absolute agreement of 93%, a level of agreement 91% greater than chance (κ = .91).

The second questionnaire asked students to indicate their beliefs, values, and expectations concerning writing by rating, on a 5-point scale ranging from 1 (really not true) to 5 (really true), how much statements such as “I like writing” were true about them. Four statements described each of six learner characteristics: (a) beliefs about ability (e.g., “I can improve my writing if I work hard”); and learning (e.g., “Learning to write well takes a long time and a lot of hard work”); (b) goal orientation (e.g., “I try to write as little as possible so I can get finished quickly”); (c) interest (e.g., “I like having a portfolio for my writing”); (d) efficacy (e.g., “It’s easy for me to think of ideas to write about”); (e) outcome expectations (e.g., “I’m usually pleased with the final copy of the things I write”); and (f) desire for challenge (e.g., “I try to choose writing projects that are easy for me”). Six additional statements targeted students’ degree of independence (e.g., “I like it when the teacher tells me what to write”). These a priori scales yielded variable and generally low levels of internal consistency (alphas ranged from .15 to .63), but moderate levels of stability across two administrations: Students gave identical responses to 64% of the items across two administrations of this measure spaced 10 days to 2 weeks apart. The alpha for all 30 items on this questionnaire was .64. I report students’ responses to the first administration in the Results section.

Finally, teachers were asked to rank students in their classrooms who were participating in my study into quartiles of writing achievement. I checked the reliability of their rankings in three ways. First, I compared teachers’ definitions of good writing with their descriptions of specific students they ranked as high- and low-achieving writers. Second, I compared teachers’ definitions of good writing with their descriptions of specific students they ranked as high- and low-achieving writers. Third, I asked three of the five teachers to rerank their students after an interval of between 10 days and 2 weeks. Their second rankings achieved 97% agreement across all four achievement levels (κ = .96) and 93% agreement for the high and low achievement levels targeted in this study (κ = .87). On the basis of these data, 10 students, 1 student from each of the top and bottom quartiles in each classroom, were selected as case studies for Phase 3.

Phase 3. I observed selected students in each of the five classrooms five times during Phase 3. Observations lasted between 1 and 1.5 hr, except in one classroom, where observations lasted 2 hr because this was the length of time devoted to writing and portfolio activities. The observation instrument used to document students’ SRL had three sections (see Appendix C). The first recorded information about the child and activity being observed. The second was a running record of what went on. The third recorded (a) specific strategies students used while engaging in the writing process (e.g., planning or drafting), (b) specific portfolio activities (e.g., reviewing or selecting), (c) executive strategies (e.g., making choices or modifying tasks or the environment to control challenge), and (d) evidence of persistence.

During each observation, I positioned myself in the classroom so that I could clearly see and hear students without being intrusive. I kept a running record of events and actions, focusing on and recording evidence of students’ SRL. Also, I continued to record features of activities that distinguished high- and low-SRL classrooms (e.g., did students have choices, control over challenge, and opportunities to evaluate their processes and products?). As much as possible, I recorded the verbatim speech of students to students, individual students to teachers, and teachers to the class. Often I
was able to sit with selected students as they worked and ask them about their thinking and strategy use while they engaged in writing or portfolio processes.

After each observation, I read and annotated my running record, adding details regarding events and actions that I did not have time to record during the observation and filling in gaps in students' speech (paraphrases were noted with square brackets) until I was satisfied that it was as detailed and accurate as my memory would allow. Then I reread the running record, this time looking for examples of students' strategy use and persistence and noting them beside the correct category in Section C of the observation instrument. Finally, each student's behaviors across the five observations were entered into a summary table to create a profile of behaviors during writing and portfolio activities. A check was used to indicate evidence of a particular behavior, and an X was used to represent occasions when it would have been appropriate for students to engage in particular behaviors but they did not. These summary tables were used as references for writing descriptive accounts of individuals' behaviors and patterns of behavior across classroom contexts and achievement levels.

Running records for 4 of the selected students were coded by a second rater, whom I trained with the same procedures that were used in Phase 1. We achieved absolute agreement for 97% of our codes (κ = .91).

Also in Phase 3, students were interviewed immediately after each observation, so I could check the validity of my interpretations of their behaviors and gain insights into aspects of their SRL that were unobservable (e.g., monitoring and decision making). Questions were derived directly from my observations but always required students to reflect on (a) the purpose(s) of the activity in which they were engaged, (b) what they were thinking as they engaged in it, (c) difficulties they experienced, (d) how they handled these, and (e) the assessment value of the activity for themselves and their teacher. The second rater and I used transcripts from these interviews to generate categories reflecting students' descriptions of their writing and portfolio processes and products, modifications to tasks and environment, collaborations with peers, difficulties, self- and teacher-evaluations, and evidence of their motivational orientations (e.g., goals, expectations, and willingness to take risks). Then we coded 4 students' transcripts and compared our findings. Absolute agreement was 95% (κ = .85).

Results and Discussion

The results of my study are presented in two sections. The first reports findings from Phase 1, focusing on selected teachers' responses to the questionnaire and observations of representative lessons from classrooms more and less likely to promote SRL. The second section reports findings from Phases 2 and 3. Analyses of Phase 2 data focus on the extent to which students' perceptions of control and support and their beliefs, values, and expectations concerning writing varied across classroom contexts. Analyses of Phase 3 data focus on evidence that selected students were engaging in SRL and how their behavior differed as a function of classroom environment and achievement level.

Phase 1 Findings

Teacher questionnaires. Responses indicated that writing and portfolio activities in Laura's, Kathy's, and Nan's classrooms were likely to promote SRL. Their average ratings for items concerning choice, control over challenge, student self-evaluation, peer support, and teacher support were, for the most part, above 3 on the 5-point scale (see Figures 1 and 2), indicating that these features of high-SRL environments were present in more than half the writing and portfolio activities in their classrooms. Peter's and Linda's responses indicated that these features seldom or never characterized writing activities in their classrooms (their average ratings for most scales were below 3). Peter also rated items concerning portfolio practices below 3, whereas Linda was more erratic in her ratings of portfolio items. She indicated that her students often made choices and collaborated with peers during portfolio activities but seldom had opportunities to control challenge. However, my observations and in-person conversations with Linda led me to conclude that portfolio activities in her classroom did not offer students the kinds of choices or support associated with high-SRL environments (see below).

![Figure 1](image-url)
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Table 2  
Consistency Ratings for Writing and Portfolio Activities in Laura's, Peter's, and Linda's Classes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Laura's class</th>
<th>Peter's class</th>
<th>Linda's class</th>
</tr>
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<tbody>
<tr>
<td>Choice</td>
<td>5</td>
<td>2</td>
<td>2</td>
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<tr>
<td>What</td>
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<td>Challenge</td>
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<tr>
<td>Self-evaluation</td>
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<tr>
<td>Teacher support</td>
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<td>1</td>
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<tr>
<td>Peer support</td>
<td>5</td>
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Figure 2. Mean ratings for portfolio scales on the teacher questionnaire.

Observations. Appendix D summarizes the qualitative differences in writing and portfolio activities between high- and low-SRL classrooms. In general, my observations were consistent with teachers' descriptions of writing and portfolio activities in their classrooms. Specifically, in the three high-SRL classrooms, students engaged in complex, meaningful activities that extended over multiple writing sessions and engaged them in all phases of the writing process. They were given opportunities to decide what to write, where, and with whom; they controlled challenge by determining how much to write, at what pace, and with what level of support; and they were involved in setting evaluation criteria, editing, and revising their work, and selecting samples for their portfolios. Support from teachers and peers in these classrooms included sharing ideas, resources, and strategies and collaborative editing.

For example, in Laura's Grade 2/3 class, I observed as students conducted research and wrote reports, evaluated their learning and wrote about it in their "reflections journal," and prepared a table of contents and selected writing samples for their portfolio. Table 2 contains the consistency ratings assigned to activities in Laura's class. These ratings indicate that students were given control and support in keeping with environments hypothesized to promote SRL during each of my five visits. Typically, writing blocks in Laura's class lasted for 1.5 to 2 hr and began with a 10-15 min class meeting. The purpose of these meetings was to plan writing activities (e.g., "How's the research going?") "Has anyone got a draft ready for the computer?") solve problems (e.g., "When you have something new to do, it helps to look at something you've already done"), or learn new skills for the next phase of their project (e.g., how to provide constructive feedback to a peer or how to use the cut and paste function on the computer).

After class meetings, students were responsible for managing their time toward the completion of their projects. Typically, they divided their time among several tasks, perhaps beginning at the computer to revise a section of a research report that had been edited last period and then returning to the classroom to illustrate the printed version of that section or to help a peer plan or edit a section of their report. Within the writing block, students chose what to work on (usually within a broad topic that the class shared, e.g., research on penguins), when, where, and with whom. They controlled challenge by determining how much they would write and the pace at which they would work, how much and what kinds of support they would seek, and how much and what kinds of feedback they would incorporate in revisions. Self, peer, and teacher evaluations were embedded in iterative processes of editing and revising, and students were involved in generating criteria used to evaluate good writing and good research. Finally, there was an abundance of instrumental support in keeping with approaches to reading and instruction believed to promote SRL (Graham & Harris, 1994; Turner, 1995). Laura's carefully orchestrated minilessons and class discussions provided students with knowledge, skills, and attitudes for accomplishing complex writing and portfolio tasks and working constructively with peers. She was sensitive to the level of support needed by individual students and the class as a whole and adjusted her support and evaluative feedback according to her judgments about individuals' capabilities and threshold for discouragement. Reflecting on students' first
research project, which occurred in the fall before my observations, Laura described how she "practically spoon-fed" students the process of doing research. In January, when these observations were conducted, she expected more input and independence from students as she primed them for a final project they would complete independently (see Phase 3 findings section).

In contrast, students in Peter's and Linda's classrooms engaged in writing activities that were brief (10 min) and focused on specific skills apart from composition (e.g., correcting spelling and punctuation errors in a sentence the teacher wrote on the board). In these activities, students' choices were limited and challenge and criteria for evaluation were controlled by the teacher and were typically the same for all students. Support typically targeted procedural aspects of task completion (e.g., giving directions, distributing materials, or correcting an answer) rather than constructing meaning and strategic learning. The consistency ratings for these classrooms indicated the extent to which activities observed in these classrooms were consistent with those believed to promote SRL (see Table 2).

The "sentence fix-up" activity that occurred each morning in Peter's classroom is a typical example. Students copied a sentence of Peter's that contained some number of errors (the number of errors was posted beside the sentence) from the blackboard into their language notebooks. Their task was to find Peter's mistakes and correct them. Later, the class corrected the sentence together. Peter called on students to offer corrections and explain why they were needed. Once all the errors had been identified and the sentence on the board was correct, Peter asked students to double-check their version of the sentence with the one on the board. At the end of this activity, students submitted their notebooks to Peter so he could check their work. The next day, students' notebooks were returned, and if they had successfully corrected the errors in the sentence and done "neat printing," there would be a sticker beside the entry.

Activities like these offered students few choices and little control over challenge, and although students were involved in evaluating their work, their assessment was limited to mechanical features of writing (e.g., spelling, punctuation, and neat printing) and being "correct." On rare occasions, Peter engaged students in story writing. During these activities, students had more control over content and opportunities to seek support from peers. However, they were encouraged to limit help seeking to students in their group of 4, and to procedural aspects of tasks (e.g., clarifying directions, spelling, or cutting and pasting). When it came to sharing ideas, the message was, "If you have an idea, I know you are excited, but keep it to yourself." Also, story writing in Peter's class did not engage students in all phases of the writing process or in discussing the role of each phase in the process as a whole. Although he did involve students in prewriting activities, he did not ask them to consider possible purposes for those activities or make explicit links between the planning phase and the drafting phase that would follow. Furthermore, students in Peter's class did not edit their own or each other's writing. This resulted in lost opportunities to apply editing skills they were acquiring through the sentence fix-up activity and to reflect on and revise other meaning-related qualities of their writing (e.g., organization and clarity of ideas). In this context, students had fewer opportunities to develop skills and awareness that would enable them to direct their own writing projects in the future.

Similarly, portfolio activities in Linda's and Peter's classrooms curtailed students' SRL. On two occasions, March 7, 1995, March 14, 1995 I observed as Linda met with students about their portfolios. Linda's plan was to have students sort the contents of their portfolios into piles and then "pick some things that you'd like your parents to see." As students made selections, Linda would attach a "star quality slip" to the sample and ask the student to explain, "Why did you like this?" Their comments were recorded on the slip. Unfortunately, these portfolio meetings were hurried because Linda had only one 30-min block each week to meet with students while the counselor supervised her class. She felt rushed to see as many students as possible (typically 3) and, consequently, often began sorting with or for the student, "That goes in the language arts pile, that goes there..." Sometimes sorting was incomplete when Linda began prompting students to begin selecting samples to show their parents, and she often followed an open-ended prompt, such as "Is there anything here you are proud of?" with a more specific probe like "What about this one?" or "I like this one" before students could respond. Finally, to expedite the commenting task, Linda often provided students with their text by summarizing their oral comments, "OK, you can write..." For some students, Linda wrote the comment "cause [they were] running out of time."

All five of the selected teachers commented that one of the most difficult aspects of using portfolios was finding time to interact with individual students about their work. However, teachers in high-SRL classrooms found ways around individual conferences that met the objectives of involving students in sorting, selecting, and evaluating their work. For example, they provided the kinds of support teachers might provide to students, especially young students, during conferences during classroom discussions and minilessons. Then as students worked independently, which they did more often in high-SRL classrooms, teachers interacted with individuals. Also, these teachers used peer collaboration to distribute responsibility for supporting students.

Phase 2 and 3 Findings

Students' perceptions of control and support. Statistics for the control and support scales of the student perceptions questionnaire are displayed in Table 3. Given my field notes, which indicate that some students had difficulty making relative judgments about how often they engaged in behaviors relating to SRL (e.g., choosing writing topics or self-evaluating) and the generally low levels of internal consistency among items in the original five scales, these data should not be overinterpreted. However, some patterns were consistent with the teacher questionnaire data from Phase 1. On average, students in the three high-SRL classrooms rated items having to do with student control

<table>
<thead>
<tr>
<th>Classroom content</th>
<th>Control over learning</th>
<th>Support for learning</th>
<th>Beliefs, values, and expectations concerning writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-SRL classrooms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.00</td>
<td>2.49</td>
<td>3.36</td>
</tr>
<tr>
<td>SD</td>
<td>0.54</td>
<td>0.65</td>
<td>0.353</td>
</tr>
<tr>
<td>Low-SRL classrooms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.53</td>
<td>2.23</td>
<td>3.32</td>
</tr>
<tr>
<td>SD</td>
<td>0.50</td>
<td>0.54</td>
<td>0.402</td>
</tr>
<tr>
<td>High v. low-SRL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>classrooms</td>
<td>Effect size</td>
<td>0.94</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Note.  SRL = self-regulated learning.
higher than did students in the other two classrooms, $t(92) = 4.12, MSE = .116, p < .001$, effect size = 0.94. On specific items, they rated themselves as having more choices about what to write (effect size = 0.84), where to work (effect size = 0.51), what to put in their portfolio (effect size = 1.06), and who would see the contents of their portfolio (effect size = 0.75). Also, they rated themselves as having more control over the number of drafts they would produce (effect size = 0.71) and more opportunities to evaluate their writing (effect size = 0.42). Students in high-SRL classrooms perceived higher levels of support from their teacher and peers than students in the low-SRL classrooms, $t(91) = 1.96, MSE = .136, p = .05$, effect size = .48. On specific items, students in high-SRL classrooms perceived less support from their teachers for portfolio activities than students in low-SRL classrooms (effect size = −0.39) but more opportunities to critique (effect size = 0.44) and edit (effect size = 0.83) another person’s work. Students’ ratings regarding teacher support for portfolio activities differed from their teachers’ ratings and my observations. Perhaps students in high-SRL classrooms were unaware of the subtle support their teachers provided during portfolio activities, or the support they received from their teacher was proportionally less than the responsibility they assumed for reviewing, sorting, and selecting the contents of their portfolios. Another possibility is that the support from teachers they were currently receiving seemed less than the support they had received in past years from other teachers.

**Students’ beliefs, values, and expectations.** Students’ average ratings for items on the beliefs, values, and expectations questionnaire are shown in Table 3. Tests for differences between means suggest that students in high- and low-SRL contexts have similar beliefs, values, and expectations concerning writing, $t(93) = -.44, MSE = .081, p = .660$, effect size = 0.11. On average, students in both contexts indicated beliefs associated with incremental views of ability, mastery goals, and high efficacy. These findings were consistent with previous research about young children (see Paris & Newman, 1990, for a review). However, students’ responses to the open-ended question on the perceptions questionnaire suggested some motivational differences across contexts. This question asked students to indicate what they would want me to notice about their writing if I looked through their portfolio. Although a large proportion of students in both contexts indicated that the mechanical aspects of writing were a focus for them (37% in high-SRL classrooms and 58% in low-SRL classrooms), students in high-SRL classrooms also alluded to the meaningful aspects (27% vs. 6% in low-SRL classrooms) and intrinsic value (21% vs. 3% in low-SRL classrooms) of their writing. One student indicated, “[I want] to see you interested in my writing.” No student in a high-SRL classroom referred to the extrinsic value of their writing, compared with 6% of students in the other two classrooms who indicated that they would want me to notice that “most of it is right” or “my award for doing everything right.” Students in the low-SRL classrooms also were more likely to respond “I don’t know” to this question or with an answer that suggested a lack of caring on their part about what I might notice (e.g., “nothing” or “I don’t care”). Finally, 22% of the students in the high-SRL classrooms gave responses that included what I initially took to be a vague descriptor, “good writing.” In thinking more about this label, however, I realized that students in these classes spent time developing and displaying elaborate lists of what good writing means. It is possible that these students associated this descriptor with an elaborate array of attributes that they wanted me to notice while examining their work.

Similarly, in Phase 3 interviews, the 6 students I observed in the high-SRL classrooms indicated an approach to learning that reflected intrinsic theories of motivation (Pintrich & Schrauben, 1992). They indicated a task focus when choosing topics or collaborators for their writing and focused on what they had learned about a topic and how their writing had improved when they evaluated their writing products. For example, Carol, the low-achieving student selected in Laura’s class, chose to do research on tigers because “they are interesting . . . and there’s lots to learn about them.” She had teamed up with a classmate who was studying cougars “because cougars and tigers are in the same family.” Comparing her work on this project with work completed earlier in the year, Carol commented, “I learned a lot from when I was in Grade 1 because I had a lot of trouble then. . . . [Writing is] getting a lot easier and . . . quicker.” Also, the students in high-SRL classrooms did not shy away from challenging tasks and topics, and the reasons they gave for seeking challenge reflected a desire for personal mastery. Susan, the low-achieving student selected in Kathy’s class, was not daunted by how hard it is to “get some of the sentences down [to note facts from a book in point form] and think of sentences for that [transform points into complete sentences in a research report].” She was pleased with what she was learning “about different [places] and what kind of animals they’ve got there . . . what kind of people.” Also, she was convinced that she was learning “harder words” and that “the more she used them, the easier . . . the less [she had] to check.”

In contrast, the 4 students in the low-SRL classrooms were more focused on their teachers’ evaluations of their writing and how many they got right on a particular assignment. Both the high- and low-achieving students in these classrooms were concerned with getting a “good mark.” Furthermore, the 2 low-achieving students in these classrooms made comments that reflected a desire to avoid failure and perceptions of low ability and low efficacy regarding writing. For example, Rebecca, in Peter’s class, described choosing work that is “easier” and often hid her work, “so no one else would see.” Natalie, in Linda’s class, also avoided difficult writing tasks and commented on more than one occasion, “I’m not very good at writing.”

**Self-regulated learning.** Qualitative differences in students’ behaviors across high- and low-SRL classrooms are summarized in Appendix E. Tasks, authority structures, and evaluation practices in high-SRL classrooms offered students more opportunities to think and act as self-regulated writers. In these classrooms, the 6 students I observed engaged in all phases of the writing process and moved
among the phases independently, flexibly, and recursively. In Laura’s class, I observed Carol and Nand as they conducted research. They planned for writing by creating a semantic web to organize facts gathered from multiple sources. They drafted their final version in a spiral-bound booklet, complete with a table of contents and a bibliography. Each selected a page from their reports to go into their portfolios. Like skilled writers, their path through the writing process was not linear (Graham & Harris, 1994). They juggled the various phases in the writing process depending on what information and support were available to them, their interests, and deadlines. On one occasion, (May 10, 1995) I observed Nand as he drafted a section of his report that described what owls eat. He mentioned that he hadn’t finished his web but would fill in missing facts “when I come to them . . . I’m just doing what I can.” He explained that he was writing the section on food “because I have lots on food.” In this instance, Nand’s decisions about how to allocate time and resources reflected efforts to cope with a difficult aspect of writing, gathering information. On other occasions, (May 17, 1995) Nand’s decisions about how to manage time were based on his interest in spending some part of every writing session at the computer or on pragmatic concerns (e.g., seeing that Laura was busy with another student, he began working on another section of his report until she was available).

My observations and interviews also offer evidence that the 6 students in the high-SRL classrooms monitored and evaluated their writing progress in productive ways. For example, the rough drafts in Carol’s portfolio had lines drawn under some words and arrows linking one place in the text to another. Carol explained that she underlined words she was not sure how to spell while writing and then asked Laura to help her correct spelling errors when they met to go over her work. The arrows were the result of editing with Laura and peers. “We saw some corrections and moved things around.” (May 26, 1995) While Carol reviewed edited documents in her portfolio, (May 17, 1995) she commented on improvements in her writing from September to May (“I learned a lot from when I was in Grade 1 . . . I’m learning more words . . . finding commas and that stuff.”). Improvements were not so obvious to Nand when he reviewed drafts of his writing, (May 10, 1995) perhaps because writing had presented fewer difficulties for him throughout the year. However, he did comment on the progress he and the class had made toward the goal of conducting research independently. “Normally, [Laura] helped us with the whole research but this is our own . . . the first two times we had to see how it works, how to do it.”

Finally, my observations and interviews suggest that the 6 students in the high-SRL classrooms sought instrumental support from one another and their teacher. In selecting a partner for collaborative activities, these students demonstrated a task focus by choosing someone who shared interests with them or had skills they needed to develop. In Laura’s class, Carol chose a student who was working on a related research topic and helped her “understand things.” (May 10, 1995) She explained that because “[tigers] are hard to find . . . there’s not that many books that have tigers in them,” she needed to learn to look through books about “all kinds of animals . . . and, if the book has a table of contents, I look through the contents.” Her buddy helped her learn that because he was “in Grade 3.” The 3 high-achieving students in the high-SRL classrooms did not rely on others to complete tasks successfully. Nonetheless, they interacted with one another about the substance of their writing, “Do you know why owls eat skunks . . . Do you think this sentence is too short?” (May 17, 1995) Or they shared discoveries about the writing process, “I don’t need a draft but it’s better if you have a draft . . . because it’s faster to write on paper than I am typing on the computer.” (May 3, 1995). These behaviors contrast sharply with collaborations among the students in the low-SRL classrooms. In those classrooms, the 4 students I observed chose partners mainly for social reasons (e.g., “I like playing with her and I hadn’t seen her for a long time”; May 3, 1995) and then spent much of their writing time off task.

The 6 students in the high-SRL classrooms viewed teachers as collaborators rather than managers of their writing process. They asked teachers to help with challenging problems and to comment on their work in progress but did not appear to perceive or rely on them as the ultimate source of knowledge. When asked what their teachers might look for when they reviewed students’ work, the students in the high-SRL classrooms typically indicated improvements or information. Carol commented that Laura “might learn about tigers too, because I wrote it and she reads it and she gets information too” (May 10, 1995). In contrast, the 4 students in the low-SRL classrooms perceived that teachers controlled their writing (e.g., “She didn’t ask me, I knew I had to do it”; May 16, 1995) and looked for mistakes when reviewing students’ work. In these classrooms, the students appeared to focus on superficial indicators of performance (e.g., stickers and scores). They missed opportunities to improve their knowledge and skill in writing by not evaluating their writing before submitting it to the teacher and not reviewing their work when it was returned. During the sentence fix-up task in Peter’s class, I observed many notebooks turned face down on desks while the errors in the sentence on the board were identified and discussed. Similarly, the low-achieving student selected in Peter’s class indicated that she did not check her work before handing it in because she “didn’t have to” and because “mistakes are checked by the teacher” (May 3, 1995).

As was documented in Phase 1, students in the low-SRL classrooms had fewer opportunities and incentives to behave like self-regulated writers. Many activities in which these students engaged did not require them to produce extended discourse. For activities that did, their teachers assumed much of the responsibility for navigating phases of the writing process, controlling challenge, editing, and revising. In these contexts, I observed students not only passing over, even rejecting, opportunities to take responsibility for some aspect of their writing (e.g., reviewing and self-correcting) but also choosing ineffective, even self-handicapping, strategies (Covington, 1992). Natalie, the low-achieving student
selected in Linda's class, avoided journal writing by engaging in conversations with students around her and then hiding her journal rather than submitting it to her teacher. She was able to verbalize several strategies for coping with writing difficulties, including asking "other people" for help, using one of Linda's story starters, and looking through books. However, I observed that Natalie, like many low-achieving writers, did not use these strategies optimally (Graham & Harris, 1994). I never observed Natalie approaching her peers for help. Instead, when she experienced difficulties with writing, she waited for Linda to become available. Also, when making use of story starters or books, Natalie tried to choose "easy" topics over interesting ones and then found it difficult to stick with them.

My observations revealed some similarities in students' SRL across contexts that might be attributable to skill and interest in writing. The 5 students rated as high-achieving writers reported fewer difficulties than the 5 students rated as low-achieving writers and different strategies for coping with them. The high-achieving students indicated that generating ideas for writing and editing their drafts was quite easy. When they experienced writer's block, they understood what caused the problem (e.g., "I didn't do much"; May 26, 1995) and used a range of strategies to solve it independently. One student described how "I just think of stuff I've done, read ... if there's anything coming up like my birthday..." (May 9, 1995). Another described how she piggybacked on other students' ideas, "sometimes when other people say their title, it will give me an idea," and used other people's experiences, "I think about other people's lives ... what I've heard about" (May 18, 1995). In contrast, the low-achieving writers tended to turn to their teacher or classmates for help when problems arose. None of the high-achieving writers indicated that they experienced difficulties with the mechanical aspects of writing, whereas mechanical problems were the most common frustration for the low-achieving writers. Each of these writers mentioned difficulties with spelling, typing, or reading her or his handwriting. Two of the 3 low achievers in the high-SRL classrooms also described the difficulties they had transforming the facts they gathered on their research topics into "good sentences." Finally, the high-achieving writers demonstrated more sophisticated ways of navigating the writing process (e.g., distributing rather than duplicating tasks during collaborative activities and recognizing when one sentence, "Owls live all over the world except ...," could convey the same information as many; "I could have made it 15 sentences, by writing where they do live, but I decided to just put that"; June 7, 1995) and reported more instances of writing in their spare time in school and at home.

These findings were consistent with previous comparisons of skilled and unskilled writers (Graham & Harris, 1994). However, the 3 low-achieving writers in the high-SRL classrooms were not discouraged by their difficulties. Their comments indicated that although writing was difficult for them, they were satisfied with the support they received and encouraged by improvements in their writing from the beginning of the year. Hard work was paying off for these students. In contrast, the defensive tactics used by the 2 low-achieving writers in the low-SRL classrooms, as well as statements they made reflecting perceptions of low-ability in writing, suggested that they were discouraged. They were more likely than their low-achieving peers in high-SRL classrooms to adopt an academically self-handicapping view of the challenges writing presented (Covington, 1992; Rohrkeremper & Cormo, 1988).

Conclusion and Future Directions

My study provides evidence of young children's SRL in naturalistic contexts and empirical support for sociocognitive models of learning that emphasize the need for researchers to attend to contextual factors such as tasks, authority structures, and evaluation practices to explain decisions students make about how to behave in school. Specifically, Grade 2 and 3 students in high-SRL classrooms adopted skills and attitudes that are characteristic of self-regulated learners, whereas students in low-SRL classrooms adopted attitudes and actions associated with defensive, even self-handicapping, approaches to learning (Covington, 1992). Finally, my observations indicate that teachers' use of the particular educational innovations (e.g., the writing process and portfolios) does not guarantee a high-SRL environment. This highlights the value of characterizing learning contexts before characterizing students' engagements in them.

The findings of my study have important implications for practice. In particular, they highlight the importance of attending to young children's motivations and designing primary classroom environments that promote academically effective forms of SRL. However, my observations of and interactions with the teachers who participated in my study indicate that aligning classroom practices with the goal of fostering SRL requires more than exposing teachers to contemporary approaches to assessment and instruction. More likely, teachers require guided and sustained activities aimed at helping them to develop deep understanding of how their current practices influence students and supporting their experimentation with alternative teaching and assessment strategies. Participatory models of teacher development, operationalized in the communities of practice literature (Lave & Wenger, 1991; Palincsar, Magnusson, Marano, Ford, & Brown, 1998), offer useful frameworks for accomplishing these goals. Also, in the interest of designing effective development activities for teachers that will enhance students' learning, I believe research on SRL needs to make several advancements. In particular, more in-depth investigations of writing and portfolio activities in classrooms are needed to increase the generalizability of studies like mine (e.g., Pressley, Wharton-McDonald, Mistretta, & Echevarria, 1997; Turner, 1995). These investigations should extend throughout an entire school year, documenting important foundational activities to inform understanding about how much and what kinds of support young children require to behave as students in the high-SRL classrooms in my study did in January through June.

Researchers need to develop more valid measures of young children's motivation and SRL, as well as measures that enable qualitative comparisons of students' writing
achievement across high- and low-SRL classrooms. In keeping with the experiences of other researchers (Pintrich & Schunk, 1996), the questionnaires I developed to assess young students' perceptions of their classroom environments and their beliefs, values, and expectations regarding writing were not psychometrically strong and, in the case of the beliefs, values, and expectations questionnaire, did not tease out differences among young children's motivation. In the past, this methodological shortcoming has been interpreted to mean that young children are unclear about the correlates of motivation (Cain & Dweck, 1995). However, my open-ended question on the perceptions questionnaire and my semistructured interviews provided more detailed and differentiated information about students' perceptions of their classroom contexts and motivational orientations. This finding supports claims that methods used to assess older students' motivation and SRL may not be appropriate for young children. According to Cain and Dweck, new measures that target issues young children value, use language and response formats they understand, and assess their motivational responses in the context of activities relevant to their daily life need to be developed. Finally, I collected samples of students' writing in each of the classrooms I studied. However, writing products varied considerably across classrooms, and because no standardized measures of students' writing achievement were available, I was limited in the kinds of comparisons I could make concerning relations between classroom contexts and students' writing competence. In future research, this limitation might be addressed by administering generic writing prompts (Needles & Knapp, 1994) to all participants and then evaluating their products with criteria that address both meaningful and mechanical aspects of writing.

References


### Appendix A

**Outline of Three Phases of Study**

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyed 19 Grade 2 and 3 classrooms about writing and portfolio activities in their classrooms.</td>
<td>Surveyed students in the five selected classrooms about their perceptions of control and support in their classrooms and their beliefs, values, and expectations regarding writing.</td>
<td>Observed and interviewed selected students, documenting differences in SRL across classroom contexts and achievement levels.</td>
</tr>
<tr>
<td>Ranked classes to reflect degree to which activities promoted or curtailed SRL.</td>
<td>Teachers ranked students from highest to lowest achieving writers.</td>
<td></td>
</tr>
<tr>
<td>Selected five classrooms for in-depth observation:</td>
<td>Selected 10 students for in-depth observation:</td>
<td></td>
</tr>
<tr>
<td>3 high SRL</td>
<td>5 high-achieving writers</td>
<td></td>
</tr>
<tr>
<td>2 low SRL</td>
<td>5 low-achieving writers</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** SRL = self-regulated learning.

### Appendix B

**Classroom Observation Instrument**

**Section A**

Teacher ___________________ Date ___________________

Activity ___________________

Start time ___________________ End time ___________________

**Section B**

Running record

**Section C**

Category Description/examples
Choice
Control over challenge
Self-evaluation
Peer support
Teacher support

(Appendices continue)
Appendix C

Observation Instrument for Documenting Students' Self-Regulated Learning

Section A

Child ____________________________ Classroom ____________________________

Activity __________________________ Date ____________________________

Start time __________________________ End time ____________________________

Section B

Running record

Section C

Behaviors | Description/examples
---|---
Writing processes | 
Planning | 
Drafting | 
Editing (self/peer) | 
Revising | 
Portfolio processes | 
Reviewing | 
Organizing | 
Selecting | 
Executive processes | 
Making choices | 
Controlling challenge | 
Self-evaluating | 
Getting support from peers | 
Getting support from teacher | 
PERSISTING | In the face of difficulty | 
Through all stages of the writing process | 
Through many iterations of the process | (e.g., multiple revisions)

Appendix D

Qualitative Differences Between Writing and Portfolio Activities in High- and Low-SRL Classrooms

<table>
<thead>
<tr>
<th>Variable</th>
<th>High-SRL classrooms</th>
<th>Low-SRL classrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks</td>
<td>Tasks were complex, focused on large chunks of meaning, extended over long periods of time, and engaged students in all phases of the writing process.</td>
<td>Tasks focused on specific skills apart from composition, were short in duration, focused on prewriting and drafting processes, and focused on specific strategies versus being strategic.</td>
</tr>
<tr>
<td>Student control</td>
<td>Students had a range of relatively unconstrained choices and opportunities to control challenge and were involved in evaluation.</td>
<td>Teachers controlled challenge and set criteria for evaluation.</td>
</tr>
<tr>
<td>Support</td>
<td>Students received instrumental support from peers and teacher (support that led to self-regulation).</td>
<td>Students received procedural support from peers and teachers.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Evaluation was embedded in ongoing activities, interactive, emphasized processes as well as products, focused on personal progress, and interpreted errors as opportunities to learn.</td>
<td>Evaluation was a separate activity done by the teacher, focused on the mechanical aspects of writing, applied the same standards to all students, and highlighted number correct and student differences.</td>
</tr>
</tbody>
</table>

Note. SRL = self-regulated learning.
Appendix E

Qualitative Differences in Students' Self-Regulated Learning (SRL) Across High- and Low-SRL Classrooms

<table>
<thead>
<tr>
<th>High-SRL classrooms</th>
<th>Low-SRL classrooms</th>
</tr>
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<tbody>
<tr>
<td>Students engaged in all phases of the writing process (planning, drafting, editing, revising, and publishing) independently flexibly recursively</td>
<td>Students engaged in prewriting and drafting phases of the writing process under their teacher's direction in a linear fashion</td>
</tr>
<tr>
<td>Students managed time and resources to control challenge to accommodate interests to maximize efficiency</td>
<td>Teachers managed time and resources.</td>
</tr>
<tr>
<td>Students monitored and evaluated their progress.</td>
<td>Students overlooked or ignored opportunities to evaluate their work.</td>
</tr>
<tr>
<td>Students sought instrumental support from teachers and peers.</td>
<td>Some students used academically ineffective or self-handicapping strategies.</td>
</tr>
</tbody>
</table>

Received April 7, 1997
Revision received March 20, 1998
Accepted March 23, 1998

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