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Qualitative Approaches to Investigating Self-Regulated Learning: Contributions and Challenges

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The articles included in this special issue demonstrate how qualitative methodologies can be profitably employed to enhance understanding related to self-regulated learning (SRL) and the contexts that support it. This concluding discussion underlines ways in which these articles contribute to an understanding of SRL, with a particular focus on the advantages associated with the methodologies employed. Discussion centers on 4 themes that emerged across articles from authors' attempts to view SRL from a qualitative perspective. These themes include consideration of (a) how SRL should be defined, (b) investigating SRL in context, (c) documenting intervention–outcome linkages, and (d) the interplay between researchers', teachers', and students' co-constructions of theories of SRL. As part of the discussion in each section, the article highlights outstanding conceptual and methodological challenges for researchers and educators interested in SRL.

The articles in this special issue paint a broad and complex portrait of self-regulated learning (SRL) as it appears and develops across contexts and over time. Taken together, the articles demonstrate how qualitative methodologies can be employed profitably to address a range of research questions with learners at different ages. For example, across articles, the focus of study ranges from a fine-grained analysis of intrapsychological experience (Reed, Schallert, & Deithloff 2001), to studies of how classroom discourse and practices support self-regulated performance in literacy, math, or science (Meyer & Turner, 2001; Patrick & Middleton, 2001; Perry, VandeKamp, Mercer, & Nordby, 2001), to a study of the impact on SRL of the broader school culture (De Groot, 2001). Collectively, the articles investigate SRL across the life span, with descriptions of primary classrooms that support SRL, instruction that fosters SRL by students in Grades 5 to 8 (Meyer & Turner, 2001; Patrick & Middleton, 2001), adolescents' perspectives on school culture and its relationship to learning (De Groot), and SRL's association with immersion in learning by college-level and post-graduate students (Reed et al., 2001).

Within each article, authors make a unique contribution to understanding SRL and the contexts that support its develop-

ment. Nonetheless, four important themes can be identified across papers that will form the basis for discussion here. These themes emerge from the attempt by authors to view SRL from a qualitative perspective and include consideration of (a) the definition of SRL, (b) the investigation of SRL in context, (c) the documentation of intervention–outcome linkages, and (d) the interplay between researchers', teachers', and students' co-constructions of theories of SRL. Upcoming sections define contributions made by authors in each area and surface outstanding conceptual and methodological challenges.

DEFINING SRL

Over the past 30 years, definitions of SRL have become increasingly encompassing (Paris & Paris, 2001). Early descriptions characterized self-regulated learners as metacognitively aware, planful, and strategic (Brown, 1987; Butler, 1998b; Flavell, 1976). Subsequently, through the 1980s and 1990s, conceptions of SRL evolved to comprise interactions between students' knowledge (e.g., metacognitive, domain specific, epistemological), metacognitive skill (e.g., planning, monitoring), motivation (e.g., self-efficacy beliefs, attributions), and cognition (e.g., application of a cognitive strategy; Alexander & Judy, 1988; Borkowski & Muthukrishna, 1992; Butler, 1998b; Butler & Winne, 1995; Schommer, 1990; Schunk, 1994). An emphasis has been on how SRL is a function of the knowledge and skill that students construct over time (Paris & Byrnes, 1989).

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At the same time, evolving definitions of SRL focus on how enactment of self-regulated approaches to learning depends on *individuals* acting in *social* contexts (e.g., Paris & Paris, 2001; Patrick & Middleton, 2001; Zimmerman, 1995). This perspective emphasizes that self-regulated learning emerges from more than just individual knowledge and skill. Rather, self-regulation also “involves a social aspect that includes interactions with peers and teachers” (Patrick & Middleton, 2001) who shape students’ task engagement by “co-regulating” learning (Meyer & Turner, 2001). By definition, self-regulated learning is now thought to occur when students are motivated to reflectively and strategically engage in learning activities within environments that foster self-regulation.

In line with emerging definitions of SRL, in this special issue, authors investigate the interplay between motivation, affect, cognitive strategies, metacognition, and social contexts as they shape students’ approaches to learning. Indeed, one of the most significant contributions of this set of articles is definition of methodological approaches that successfully capture the interactions among variables that have most often been investigated in a more piecemeal fashion. An excellent example is Patrick and Middleton’s (2001) combined use of observations and interviews to document how students were “engaged cognitively, metacognitively, motivationally, or collaboratively” in project-based science. In general, qualitative approaches that investigate the recursive interactions between constructs advance understanding of how SRL can be supported in naturalistic contexts and in real time (Perry et al., 2001). Further, unlike aggregated measures of SRL that describe students’ learning across contexts or tasks (Winne & Perry, 2000), qualitative methods allow researchers to complete more fine-grained analyses of instances of SRL as they play out in context. In Winne and Perry’s (2000) terms, qualitative methods support researchers’ attempts to investigate SRL as an “event” (p. 534).

The complex definitions of SRL that have evolved over the past 30 years can be linked to shifts in methodology (Paris & Paris, 2001). As Patrick and Middleton (2001) explain, sociocultural perspectives that emphasize how SRL is shaped socially have led to qualitative methodologies that investigate SRL in context (see also Perry et al., 2001). As a result, emerging definitions of SRL have assisted researchers and teachers to develop integrative theories about learning that are broadly encompassing. However, definitions of SRL that include both social and individual processes also raise important conceptual questions. For example, *how* is SRL both an individual and a social process? What are individual and sociocultural influences on students’ development of SRL (Butler, 1998a)? Increased clarity on these topics may be useful in building theory, constructing methodologies for studying SRL, and advancing practice.

For example, the articles in this special issue document how students’ enactment of SRL is not just a function of what an individual brings to the learning context. Students’

self-regulation can be enhanced, or inhibited, by the circumstances in which they find themselves. At a simple level, whether or not students self-regulate depends on whether or not they are afforded opportunities to do so (e.g., choice, control, opportunities for self-appraisal; Perry et al., 2001). An important implication is that it is not possible to judge individuals’ capacity to self-regulate without consideration of context. Note, for example, Perry’s (1998) finding that even young children are capable of self-regulating in supportive settings.

At a more subtle level, definitions of SRL as socially influenced recognize that students’ regulation of learning can be guided by others (i.e., co-regulation of learning supported using classroom discourse, supportive materials, procedural facilitators, etc.). Indeed, another significant contribution of the articles in this special issue is the demonstration of how qualitative methods can capture the way in which co-regulation operates and can be faded as students take more responsibility for learning (e.g., Meyer & Turner, 2001). These findings clearly document that the process by which SRL develops is, at least in part, a social one.

But does this mean that SRL, *per se*, is a social process? Or, could SRL be the endpoint of a process of development? Certainly, few educators would be satisfied with students’ continuous reliance on others to solve math problems, even if social support is instrumental in promoting students’ development of SRL. Indeed, most definitions of SRL have at their core the goal of students’ self-directing learning independently. For example, Paris and Paris (2001) link self-regulation to “autonomy and control by the individual who monitors, directs, and regulates action toward goals of information acquisition, expanding expertise, and self-improvement” (Paris & Paris, p. 89). Even Meyer and Turner (2001) who explicitly describe SRL as a social process, identify students’ development of autonomy and responsibility as important instructional goals. If SRL is a social process, where do constructs such as independence, control, autonomy, and responsibility fit in? Further, what are individual contributions to SRL development (see Butler, 1998a; Butler & Winne, 1995)? Although integrative and beneficial in numerous respects, broad definitions of SRL that encompass a large variety of individual and social processes may obscure important distinctions.

INVESTIGATING SRL IN CONTEXT

Yin (1994) argued that an optimal time to use qualitative methods is when it is not possible to separate a phenomenon from its context. It could be argued that understanding SRL and supportive contexts presents just such an occasion. Consider, for example, attempts to study the features of instrumental, or “scaffolded,” instruction that support self-regulation (e.g., Meyer & Turner, 2001). Researchers have struggled to construct coding schemes that define teacher acts (e.g., open vs. closed questions) as instances of

“scaffolded” rather than “nonscaffolded” instruction. However, as Meyer and Turner acknowledge, even the most teacher-directed (apparently nonscaffolded) statement could be an instance of instrumental support if it serves to support self-regulation (e.g., self-appraisal). The problem is that whether or not a given act is instrumental depends on how that act functions in context, given a history of interaction. Similarly, when investigating SRL, Butler (1998b) described how a given student action (e.g., paraphrasing while reading) could be classed as a cognitive (e.g., comprehension building) or metacognitive (e.g., self-regulating) strategy, depending on the purpose the activity served. Thus, an opportunity, and challenge, for researchers is to define coding schemes based on the function of events in context, rather than on the surface features of teacher or student activities. Similarly, the challenge for researchers developing survey measures of SRL (Winne & Perry, 2000) is to preserve the meaning of events across individuals and out of context.

While adopting a qualitative “lens” (Patrick & Middleton, 2001), the researchers writing for this special issue were able to demonstrate how multiple methods can be employed in tandem to uncover the interplay between the social and individual processes that shape SRL in context and “on-line.” For example, interviews were used to uncover individuals’ perspectives in relation to particular events, thereby providing a window into the types of beliefs, knowledge, and skills that shape approaches to learning (e.g., De Groot, 2001; Meyer & Turner, 2001). At the same time, observations documented social interactions to suggest the meaning of events in context (e.g., Meyer & Turner, 2001; Perry et al., 2001).

Adopting a qualitative lens and multiple methods for investigating SRL also enabled the researchers to challenge SRL theories derived using other methods. Although the research tools employed by authors (e.g., research questions, coding schemes) were clearly shaped by existing theory, the techniques allowed researchers to build theory inductively and to critique extant assumptions (Merriam, 1998). For example, examining SRL in context led Perry (1998) to question whether young children are not capable of self-regulation. Similarly, Patrick and Middleton (2001) provided data that challenges the validity of survey instruments used to evaluate SRL. Inconsistencies between ratings given to surveys and what students actually did led Patrick and Middleton to suggest either that researchers and students do not interpret survey questions in the same way, or that researchers have been asking the wrong research questions. Such discrepant findings, uncovered using multiple methods that juxtapose aggregated perceptions with actions observed in context, can be extremely useful to developers of survey instruments, who can “bootstrap” (Winne & Perry, 2000) from qualitative findings to develop better theories and measures of SRL.

Reed et al. (2001) make a unique contribution to understanding SRL as an event by examining the relationship between SRL and “involvement.” According to Reed et al., involvement describes a special type of task engagement dur-

ing which a learner is wholly concentrated on a given task with deep comprehension of the material, similar to the “flow” state described by Csikszentmihalyi (1990). Further, they suggest that the consciously mediated and reflective processing characteristic of SRL can serve as either a precursor to or consequence of involvement. For example, when students employ volition control strategies to minimize distractions and focus attention, they set up the conditions necessary to establish a state of involvement (Reed et al., 2001). In this respect, Reed et al.’s study of involvement contributes to an understanding of where and how SRL fits into student learning and task engagement. The methodologies Reed et al. employ (interviews and event sampling) are designed to describe the boundaries between involvement and SRL as learning sequences unfold.

Methodologically, Reed et al. demonstrate the difficulty inherent in documenting an event that is, by definition, dissolved once it comes under conscious reflection. Their study raises an interesting question regarding how researchers can access cognitive processes that are not consciously mediated (especially using interpretive methods, which often rely on individuals’ ability to consciously report on experience). This methodological problem also is a barrier to understanding the potential role of automatic processing in SRL. Although the hallmark of SRL is considered to be students’ active and reflective regulation of their learning processes, questions can be raised regarding how much “self-regulation” transpires outside of direct awareness (Butler, 1998b). For example, is comprehension monitoring in reading always consciously mediated? When and how does awareness of a comprehension breakdown emerge? Additional research could examine what it is that triggers students to make the transition between episodes of involvement and self-regulation. Perhaps combinations of event sampling, observations, “traces,” and interviews can contribute to understanding the interplay between consciously- and non-consciously mediated learning activities (Winne & Perry, 2000).

DOCUMENTING INTERVENTION–OUTCOME LINKAGES

Several articles in this special issue examine linkages between learning environments and outcomes related to SRL. A strength of the qualitative methods employed is that they explicitly document the connection between interventions and outcomes, thereby bolstering internal validity (Creswell, 1998). For example, in a sequence of studies, Perry and her colleagues (see Perry et al., 2001) observed students and teachers in classrooms, intervened with teachers interested in revising instructional practices, and then documented both shifts in teachers’ practice and corresponding outcomes for students. This comprehensive strategy allowed her to demonstrate not only that features of classroom environments could be associated with greater self-regulation (correlational data

afforded by the initial classroom observations), but also that making shifts in instructional practice had direct effects on student learning (supporting causal inferences). Another example is provided by De Groot (2001). In one of her studies, classroom organization and school culture were altered for students in Grades 7 and 8. By interviewing students at multiple points in time across three grade levels, De Groot was able to associate changes in students' perceptions with shifts in school organizational structure across time. At a more microlevel, Meyer and Turner's (2001) discourse analysis documents the process of co-regulation in relation to students' increasing assumption of responsibility for their own learning (i.e., self-regulation). Taken together, these articles illustrate the benefits of using qualitative methods for advancing theoretical understanding regarding organizational, instructional, and classroom practices that support SRL. Thick, rich descriptions of instruction–outcome linkages are also useful for communicating research findings because they allow practitioners to vicariously witness complex processes in context, thereby supporting naturalistic generalization, or “case to case” transfer (Lincoln & Guba, 1985; Merriam, 1998).

When faced with the mass of data typically collected in qualitative studies, researchers are forced to be selective in terms of data they analyze and report. The articles included in this special issue illustrate some of the choices that qualitative researchers might make in terms of documenting intervention–outcome linkages, each of which has benefits and limitations. For example, one strategy for presenting findings is to select one or more ideal cases to describe in depth (e.g., Perry et al., 2001). This strategy is especially useful for illustrating how interventions *can* work. Further, detailed descriptions of constructive classroom practices provide guidance for educators interested in establishing similar practices themselves. Potential pitfalls with this approach, however, include overreliance on a single case (or type of case) when building theory, or an overly optimistic presentation of how classroom environments can be structured to support SRL. Equally interesting, for example, would be a report from Perry's research program describing what transpired for teachers who were not as successful in shifting their practices. Documenting the experience of unsuccessful teachers would provide important information regarding barriers or challenges that practitioners might face.

Another example of a reporting strategy is to illuminate a phenomenon by drawing stark contrasts. Using this strategy, researchers might describe extreme cases on some dimension, such as instructional discourse that is scaffolded or nonscaffolded (e.g., Meyer & Turner, 2001). This approach can be very helpful in terms of defining or conceptualizing constructs. A danger, however, is that the muddiness of “reality” may not be adequately represented in the extremes, so that distinctions that seem clear in “theory” have less relevance in practice. A final example of a potential presentation strategy would be to describe what happened across cases or events more comprehensively (e.g., De Groot, 2001). This approach

demands an accounting not only of what might be “generally” true across cases, but also a sense of the variability in responses. One advantage of this approach is that it provides an overview of both typical and discrepant findings. A thorough reporting of results is also likely to appeal most to researchers looking for a comprehensive treatment of evidence.

In general, a recommendation for constructing any qualitative report is to avoid presenting only positive evidence for generalized conclusions, while skirting discussion of disconfirming evidence and discrepant findings. Although some qualitative researchers caution against generalizing from qualitative studies in the first place (e.g., Lincoln & Guba, 1985), most acknowledge that there is a role for qualitative methods in both generating and testing theory (e.g., Merriam, 1998; Yin, 1994). In the articles included in this special issue, the authors clearly wish not just to document and describe specific instances of SRL, but also to draw theoretical conclusions about the relationships between important variables as they interact in context. To warrant generalized conclusions about what is true of SRL and contexts that support it, it is important for researchers to indicate how relevant evidence was treated comprehensively and disconfirming evidence was considered. One strategy for documenting both common themes and discrepant findings is to provide a matrix or display that presents general trends in tandem with evidence that illustrates particular points (e.g., Butler, Novak, Beckingham, Jarvis, & Elashuk, 2001; Miles & Huberman, 1994). At a minimum, to establish credibility, it is essential that researchers explicate how methodological decisions are logically connected to research purposes and warrant conclusions, particularly generalizations (Creswell, 1998; Merriam, 1998; Miles & Huberman, 1994).

CONSTRUCTING THEORIES ABOUT TEACHING AND LEARNING

Paris and Paris (2001) suggested that students construct theories about SRL as they are engaged in academic activities. This suggestion is consistent with research findings showing that students construct understandings about tasks and learning that reflect the work they are assigned, for better or for worse (Butler, 1998b; Campione, Brown, & O'Connell, 1988; Paris & Byrnes, 1989). The papers in this special issue document how classroom tasks and instructional discourse can support students' construction of knowledge and beliefs that support, rather than undermine, self-regulation (Borkowski & Muthukrishna, 1992).

Although the articles presented in this special issue focus on students' construction of theories of SRL, they also show how teachers and researchers are actively engaged in constructing understandings about SRL that drive their teaching or research activities. Consider that the focus of this special issue is on strategies for advancing theories of SRL held by researchers (using qualitative methodological tools). Less

obvious, perhaps, is the parallel effort by researchers to support teachers' construction of theories related to SRL in order to shape their instructional decision making. Perry et al.'s article provides an excellent example of a research program that dovetails professional development activities founded on a model of SRL (i.e., promoting reflective and strategic decision making in practice) with the development of classroom practices that support SRL in students. A similar, multilayered effort is apparent in the work of Butler and her colleagues (see Butler et al., 2001). A profitable area for further research could center on strategies for engaging collaborative teams of researchers, teachers, and students in co-constructing theories of SRL.

CONCLUSION

Recently, Winne and Perry (2000) provided an insightful analysis of methodological approaches used to measure self-regulated learning (SRL). At the end of their chapter, they call for additional fine-tuning of methodological approaches in three areas. These were, first, to find strategies for investigating SRL as an "event," that is as it unfolds in real time within particular contexts; second, to employ methodological triangulation, wherein multiple methods are used to give a more complex and complete picture of interacting SRL processes and the contexts in which they occur; and third, to investigate SRL across the age spectrum, as it plays out from childhood through to adulthood. Taken together, the five papers included in this special issue make contributions in each of these areas. Thus, a major focus of this concluding article has been to highlight the articles' contributions in terms both of understanding SRL and of identifying methodological tools for enhancing SRL research. At the same time, I have attempted to uncover a sampling of the conceptual and methodological challenges that remain and to suggest possible strategies for addressing them.

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