

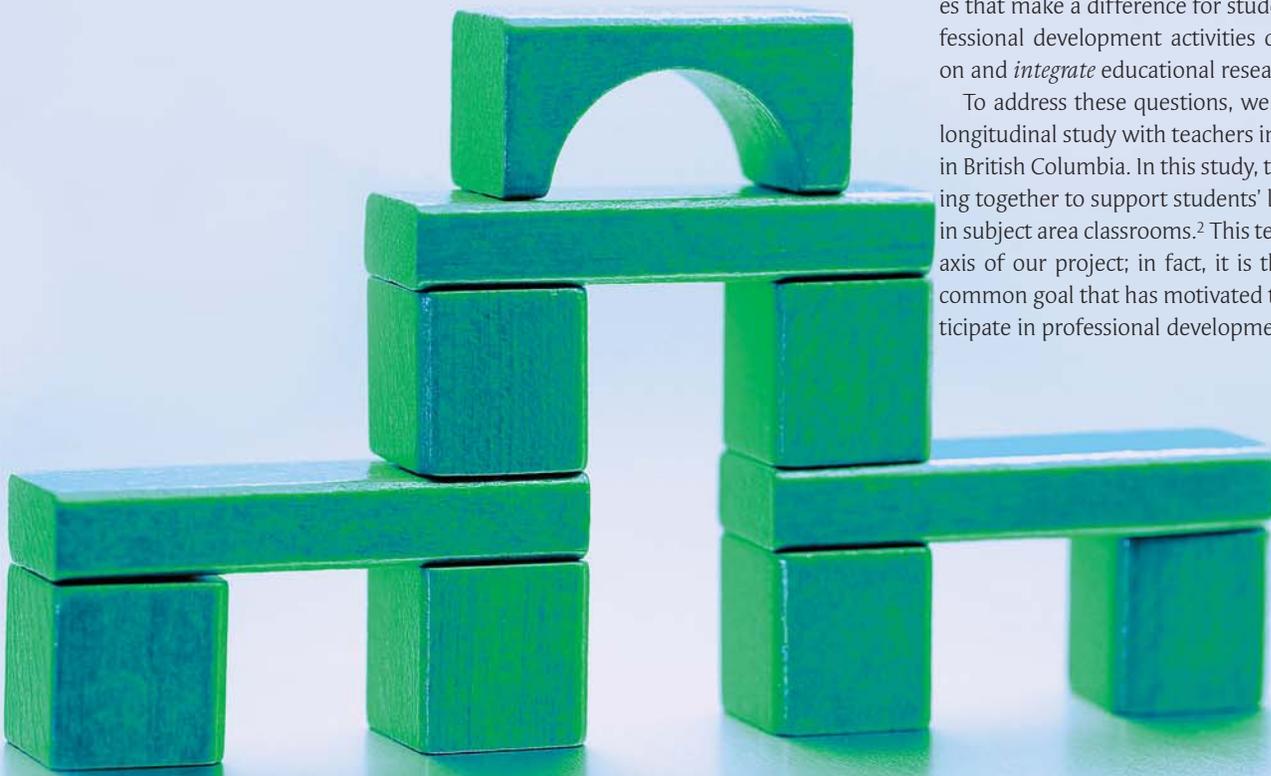
BRIDGING THE RESEARCH-TO-PRACTICE DIVIDE: IMPROVING OUTCOMES FOR STUDENTS

Teachers at MacDonald Secondary School are very concerned about the new crop of Grade 8 students. It is obvious that many students are struggling to learn from the reading assigned in their classrooms. But as subject-area specialists, the teachers don't feel knowledgeable about what students need or how to help them. They ask for assistance from school- and district-based support persons, who are excited about the opportunity to share resources related to adolescent literacy with subject-area teachers. But these support persons also know that it takes time, effort, and perseverance for teachers to identify and integrate research-based ideas into classroom practice. They wonder how they can support teachers' professional learning in ways that inspire positive changes to practice that enhance student learning.

WHEN TEACHERS ENGAGE REFLECTIVELY IN SELF-REGULATING PRACTICE – OBSERVING LINKAGES BETWEEN GOALS THEY SET, ACTIONS THEY APPLY, AND STUDENT OUTCOMES – THEY BUILD KNOWLEDGE ABOUT BOTH TEACHING PRACTICES AND STUDENT LEARNING.

AN EVER-INCREASING body of research explores how teaching practice can foster more positive outcomes for students.¹ Yet, despite countless professional development initiatives intended to help teachers develop research-based practices associated with student learning, for the most part research and practice remain disconnected. What gets in the way of teachers using research-based approaches that make a difference for students? What kinds of professional development activities can help teachers reflect on and *integrate* educational research into classrooms?

To address these questions, we have been conducting a longitudinal study with teachers in an urban school district in British Columbia. In this study, teachers have been working together to support students' learning through reading in subject area classrooms.² This teacher-defined goal is the axis of our project; in fact, it is the desire to achieve this common goal that has motivated teams of teachers to participate in professional development activities.



EN BREF Un perfectionnement professionnel supérieur est structuré de façon à soutenir la fusion des connaissances tirées de la recherche et de la pratique. Pour que la recherche soit utile, elle doit informer l'engagement des enseignants dans leur travail tant autonome que collaboratif, de trois manières : les cycles de travail doivent être activés et dynamisés par des objectifs valorisés à l'intention des élèves; des ressources externes doivent être consultées et interprétées lorsque les enseignants s'occupent activement de planifier, d'instaurer, de suivre ou d'ajuster des approches visant à réaliser ces objectifs; les enseignants doivent disposer de possibilités à long terme et de soutien conceptualisé pour adapter, suivre, ajuster et approfondir des idées adaptées aux particularités de leurs classes. Dans ces conditions, les enseignants peuvent combler avec succès l'écart entre la recherche et l'exercice de manière à améliorer les résultats de leurs élèves.

TEACHERS' COMMON GOAL: PROMOTING LEARNING THROUGH READING

Lily, a student at MacDonald Secondary School, has a month of high school under her belt, but is still reeling at the change in expectations. She now has eight different teachers who expect her to read and learn about so many different subjects. She has had little experience reading informational texts, and she feels lost when she sits down one day to read a textbook chapter for science. She decides just to focus on searching for and remembering bold words and definitions because this strategy seemed to work well the last time she had to answer questions at the end of a chapter.

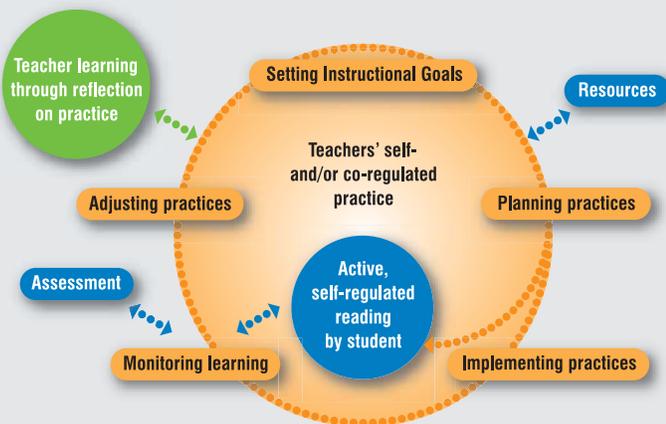
Why did teachers in our project focus attention on learning through reading? By the time students reach secondary school, they are expected to know how to navigate different kinds of texts to learn about concepts in a variety of subjects. Unfortunately, many, like Lily, struggle to actively learn from what they are reading. Thus, teachers in our project worked together to consider what kinds of skills and strategies students needed to develop in order to learn from reading assigned in their subject-area classrooms.

Lily has even more to contend with, because at the secondary level students are also expected to know how to manage their learning independently – to recognize the requirements of reading activities in multiple subjects, enact skills and strategies well suited to those demands, monitor progress, and adjust approaches to reading and learning as needed. In other words, students are expected to *self-regulate* their learning. Unfortunately, like Lily, many students are not clear about what they are supposed to get out of assigned reading and may not recognize or use skills or strategies well suited to task requirements. Therefore, in our project, teachers worked to support students' adoption of *independent*, self-regulated approaches to learning from reading.

TEACHER PROFESSIONAL DEVELOPMENT

In our longitudinal study, we have investigated how professional development activities can be constructed to support teachers' learning, shifts in practice, and positive outcomes for students. The model we draw on describes teacher learning as emerging through processes of *self-* and *co-regulation* (see Figure 1). Models of self-regulation have most typically been used to describe what is involved in students' active, strategic performance when facing academic work. Indeed, in our study teachers applied a model of self-regulated learning to understand what is required of students when learning through reading.

FIGURE 1 Professional development as teachers' self- and co-regulating practice to achieve valued goals for students



But a model of self-regulated learning is useful for describing any kind of adaptive, goal-directed activity, including the professional practice of teachers. In our research, we extend a model of self-regulation to describe how teachers actively and strategically orchestrate practice to achieve valued goals for students.³

Referring again to Figure 1, when self-regulating practice, teachers engage in a cycle of interdependent activities. A pivotal activity is the articulation of instructional goals – defining specifically what students should learn (e.g., concepts, learning processes). These goals serve as guideposts throughout a self-regulated practice cycle, which also includes planning classroom activities, implementing planned practices, monitoring outcomes, and adjusting goals or approaches as needed. By engaging in these adaptive cycles, teachers can identify, try out, monitor, and systematically modify practices to progressively improve their support to student learning, which sits at the core of the model. In our study, teachers worked together to self-regulate practice with the goal of supporting students' self-regulated learning through reading.

How does engaging in self-regulated practice support teachers' professional development? When teachers engage reflectively in self-regulating practice – observing linkages between goals they set, actions they apply, and student outcomes – they build knowledge about both teaching practices and student learning. In other words, it is by inquiring into and reflecting on practice that teachers generate practice-based knowledge about teaching and learning.⁴

Further, professional development activities can create opportunities for teachers to learn from and with others. In spite of the name, models of *self*-regulation do not actually focus on individuals' activities in isolation; instead they are centrally concerned with how practice is situated in social settings. For example, teachers often draw on resources – such as mentors, colleagues or resource materials – to assist them in improving their teaching. Thus, self-regulation involves thinking, acting, reflecting and adjusting in relation to others.

The model we are working from, as illustrated in Figure 1, helps explain how teachers can work collaboratively to *co-regulate* classroom practice. In our study, we used this model to describe the activities of teachers working together within *communities of inquiry*. We have documented how their work together – through co-planning, co-teaching, co-monitoring, co-adjusting, co-reflection, and co-construction of new knowledge – relates to changes made in practice and to outcomes achieved for students. We are finding, for example, that the richest collaborations between teachers are those that coordinate co-regulation across the full inquiry cycle (through to co-monitoring outcomes and considering how to adjust practice responsively, for example), rather than remaining focused on just a subset of activities (co-planning, for example).

IT IS NOT TOO HARD TO DESCRIBE PRACTICE IN GENERAL TERMS... BUT IT IS VERY CHALLENGING TO TAKE GENERALIZED DESCRIPTIONS AND TRANSLATE THEM INTO THE RICHNESS OF PRACTICE, WHICH IS THE TASK OF TEACHERS TRYING TO APPLY IDEAS THEY LEARN ABOUT IN RESEARCH.

LINKING RESEARCH TO PRACTICE

The model of professional development described here provides a framework for understanding how teachers can draw on resources, including research, to inform practice with the aim of achieving valued goals for students. Specifically, we suggest that resources can have an impact to the extent that they are drawn into teachers' goal-oriented, sustained engagement in self- or co-regulation of practice, with a focus on supporting student learning.

This suggestion is consistent with many themes emerging in the current literature on teacher professional development. For example, teachers are being described, not as technicians who implement formulaic approaches or scripted lessons in classrooms, but rather as decision-makers who consider a whole host of factors simultaneously (student needs, curricular, instructional, relational, ethical, logistical, etc.) to shape the classroom environment and foster student learning. Consistent with this idea, our model suggests that, if research is going to make a difference, research findings must inform teachers' decision-making as they work through and reflect on cycles of self-regulated practice.

A second theme in the professional development literature is that single workshop and transmission approaches

to professional development are ineffective. Clearly, just hearing about a new idea or approach (from research and/or a colleague) does not reliably lead to long-term or sustained shifts in practice. Why not? One reason is that descriptions of instructional principles or models are simplified abstractions of the rich and dynamic processes that comprise classroom instruction. It is not too hard to describe practice in general terms, which is the task of researchers or teachers who describe instructional processes to others. But it is very challenging to take generalized descriptions and translate them into the richness of practice, which is the task of teachers trying to apply ideas they learn about in research articles, books, workshops, or the staff room. Consistent with this theme, our model suggests that research can make a difference when teachers integrate new ideas or approaches into practice and then reflect on their own experiences to abstract and construct new understandings about teaching and learning.

A third theme in the literature is that professional development is more effective when it is inquiry-based and sustained. It takes time and perseverance to personalize and integrate new teaching strategies into practice. Teachers who are initially keen on implementing a new idea may give up if support is not available when initial attempts stall. Further, short-term, directive approaches to professional development may communicate to teachers that making change is easy and immediate (e.g., just try this in your class and you'll achieve good effects). The result may be that, when faced with obstacles or discouraging early outcomes, teachers may give up on innovation, perceive research as irrelevant, or even start to doubt their efficacy as teachers. It is not surprising, then, that emerging professional development models emphasize that making change requires trying out and refining approaches, and embedding support to teachers in classrooms in ways that are sustained over time.

A fourth theme in the professional development literature suggests that an unfortunate divide is created between research and practice whenever teacher professional knowledge, gained through reflections on practice, is pitted against research-generated knowledge in a battle over which should count more. In our view, boundaries between research- and practice-based knowledge are often blurred. Knowledge constructed through research is often grounded in practice. Similarly, practice-derived knowledge is often abstracted from observations within the complexities of classrooms. Further, when teachers try out research-informed ideas and reflect on outcomes, then research- and practice-based knowledge intertwine. Our research suggests how professional development can be structured to support teachers' merging of knowledge from research and practice. In this respect, we provide a framework for developing a less dichotomous and more dynamic portrait of how research and practice interweave when teachers engage in goal-directed, self- or co-regulated practice.

How then can external resources, such as research, meaningfully impact practice? Our model suggests that, for research to make a difference, it needs to inform teachers' engagement in self- or co-regulated practice in three ways: practice cycles need to be activated and energized by teachers' adoption of what they perceive to be valued goals for students; external resources need to be accessed and inter-



preted as teachers are actively planning, implementing, monitoring, or adjusting approaches designed to achieve valued goals; and teachers need sustained opportunities and contextualized support to adapt, monitor, adjust, and further investigate ideas, given the particularities of their classrooms. Our model also suggests that teachers' construction of new knowledge about teaching and learning will be informed by research when they situate research-based ideas in practice and then monitor and reflect on outcomes. Further, when the above conditions are in place, ideas put forward through research (or other kinds of resources) can have a sustained effect, not only by influencing classroom activity, but also by fostering teachers' construction of knowledge about teaching and learning.

RESEARCH-INFORMED PRACTICE: OBSERVATIONS FROM OUR STUDY

In our professional development study, teachers have drawn on various resources to support their self- and co-regulation of practice. In so doing, they have successfully bridged the research-to-practice divide in ways that have improved outcomes for students.

For example, multiple resources have influenced teachers' understanding about student needs, and, correspondingly, important instructional goals. Teachers have worked together to draw on, share, and interpret resources such as a research-based model defining self-regulated learning through reading processes; the performance standards for reading informational text defined by provincial curricula; and their own and others' practice-based insights into curricular priorities and student performance. Teachers have

also participated in constructing literacy assessments that have provided nuanced portraits of students' knowledge, conceptions, skills, strategies, and performance when learning through reading at the classroom level.

What outcomes did we observe when teachers drew on these resources to enrich their understanding of student needs? First, we observed that all teachers extended attention beyond just teaching subject-based concepts to set goals focused on students' learning through reading processes. For example, most teachers set goals to support students' use of active reading and learning strategies, such as activating background knowledge, drawing inferences, or making connections. Second, we observed that the goals teachers set were informed by the research-based model from which they were working but also were adapted for particular classrooms. This finding suggests that teachers were moving between research- and practice-based knowledge to make decisions about instructional goals. A third finding was that having a clear vision of goals energized teachers' engagement in cycles of self- and/or co-regulated practice. Teachers were highly motivated to develop new ways of teaching to address challenges they observed for their students. Finally, we observed that teachers were able to more specifically monitor whether their practices were making a difference. They had a clear framework for relating instructional goals to practices and to assessments of student learning, and for monitoring the effectiveness of their teaching.

Once teachers set instructional goals, they also drew from research and experience to plan, implement, and adjust practices in order to foster students' self-regulated learning through reading. What did we observe about how research- and practice-based knowledge were combined as teachers identified and tried out new methods? First, we found that teachers' choices of instructional practices were typically well matched to the goals they had prioritized for their students, a reflection of their goal-directed activity. Second, we observed that teachers drew from multiple types of resources – including articles in the professional and research literature, study groups, workshops, district-level consultants, school-based literacy leaders, and colleagues working in various roles within their schools – to guide decision-making about teaching methods. For example, teachers tried out research-based ideas that others had used to help students bridge to more independent learning through reading. Finally, we found that teachers did construct new knowledge about teaching and learning through reflection on cycles of self-regulated practice. For example, subject-area teachers recognized the need to focus on both content and process if they were to effectively support students' learning.

A key observation, given themes in the professional development literature, was that the approaches teachers adopted in our study varied considerably. This finding was not surprising, in that teachers in this project were responsible for identifying and enacting practices that would best meet their students' needs. But, significantly, various methods seemed to have a positive impact on student learning, as long as they reflected four key underlying principles. Across a variety of goals and methods, instructional practices were most successful if they were sustained over time; focused explicitly on learning processes; integrated attention to

learning processes with content instruction; and bridged from guiding learning to encouraging students' independent self-regulation. This finding suggests that teachers who build from robust instructional principles to situate practices in context can have a positive impact on student learning. Significantly, teachers in our project were also highly invested in self- and co-regulated practice when they were involved in making decisions about instructional goals, strategies for achieving those goals, and methods for monitoring outcomes.⁵

This project convinces us that, when professional development activities encourage teachers to cut across both research- and practice-based knowledge in ways that stimulate engagement in co- or self-regulated practice in pursuit of valued goals, they invest themselves in instructional change, situate research in their practice, and enhance outcomes for their students.

CONCLUSIONS

Where do the influences of research and practice fit into a collaborative professional development project like the one we have described? We conclude that they should co-mingle, as teachers engage individually or collectively in cycles of self-regulated practice. In our project, each activity within a self- or co-regulated cycle appeared to be influenced by a convergence of research-based and practical knowledge shared across individuals and groups.

These findings are consistent with themes within the professional development literature and work against more dichotomous or simplistic notions about relationships between research- and practice-based knowledge and about the roles of teachers in classrooms. It is not reasonable to expect practices used in research studies – or indeed in other teachers' classrooms – to translate directly into useful practices across settings. Teachers have an important role to play in situating research-based knowledge (and practice-based knowledge shared by colleagues) within the particular contexts in which they are working. Similarly, short-term workshops that 'tell' teachers what to do are unlikely to have a sustained impact on practice. Instead, our work suggests that it is much more productive to work with teachers to create opportunities for their engagement in cycles of self- or co-regulation and, within that context, to facilitate access to resources on which they can draw to inform decision-making about practice in classrooms.

Educators who engage in systematic, goal-directed, context-sensitive inquiry into practice can and do bridge the research-to-practice divide in ways that lead to positive learning outcomes for both themselves and their students. |

DEBORAH L. BUTLER is a Professor in the Department of Educational and Counseling Psychology, and Special Education in the Faculty of Education at the University of British Columbia. Her main interests are in fostering self-regulated learning by students, teacher professional development, research methodologies, and forging research-practice connections.

LEYTON SCHNELLERT is a doctoral candidate in UBC's Centre for Cross-Faculty Inquiry in Education. He has taught at the elementary, middle school and secondary levels. He currently works at Simon Fraser University as a Faculty Associate in the Education Faculty's Field Programs, where he supports teachers to carry out inquiries into their practice.

Notes

- 1 H. Borko, "Professional Development and Teacher Learning: Mapping the Terrain," *Educational Researcher*, 33 (2004): 3-15.
- 2 D.L. Butler, L. Schnellert and S.C. Cartier, "Adolescents' Engagement in 'Reading to Learn': Bridging from Assessment to Instruction," *BC Educational Leadership Research 2* (2005), available at <http://slc.educ.ubc.ca/eJournal/index.htm>; D.L. Butler, L. Schnellert and S.C. Cartier, "Layers of Self-regulation: Teachers Working Strategically to Improve Practice so as to Foster Student Self-regulation," paper presented at the annual meetings of the American Educational Research Association, New York, NY, March 2008.
- 3 See L.Schnellert, D.L. Butler and S. Higginson, "Co-constructors of Data; Co-constructors of Meaning: Teacher Professional Development in an Age of Accountability," *Teaching and Teacher Education* 24 (2008): 725-750.
- 4 A. Clarke and G. Erickson, "The nature of Teaching and Learning in Self-study" in *International Handbook of Self-study of Teaching and Teacher Education Practices*, eds. J. J. Loughran, M. L. Hamilton, V. K. LaBoskey and T. Russell (Norwell, MA: Kluwer Academic Publishers, 2004), 41-67; M. Cochran-Smith and S.L. Lytle, (2004). "Practitioner Inquiry, Knowledge, and University Culture in Loughran, Hamilton, LaBoskey and Russell, eds., 601-649; R. Shagoury Hubbard and B. Miller Power, *The Art of Classroom Inquiry* (Portsmouth, NH: Heinemann, 2003).
- 5 See D.L. Butler, L. Schnellert and S. Higginson, "Fostering Agency and Co-regulation: Teachers Using Formative Assessment to Calibrate Practice in an Age of Accountability," paper presented at the AERA Annual Meeting, Chicago, April 2007; Schnellert et al.


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