

Developing 21st Century Teaching and Learning: Dialogic Literacy

by Nicholas Abbey

We stand on the threshold of a pedagogical and technological revolution, with profound and far-reaching consequences for education and training and the economy and society. In the years ahead, this revolution is likely to coalesce around emerging pedagogies such as structured dialogue.

In this article, I explore how structured dialogue can build robust learning environments and improve learning outcomes. I also examine a four-dimensional model and stage-by-stage process for leading and managing such strategic change.

The article is also a comment on a conundrum: although knowledge-building, problem-solving dialogue is a powerful tool in strategic change and improving performance in all organizations, many organizations and schools are yet to fully tap the power of dialogue.

These key issues are discussed in the following sections:

1. What is dialogue and why is it important?
2. Why is dialogue so infrequent and difficult?
3. Face-to-face and computer-mediated dialogue
4. The pedagogy, technology, and performance shift
5. Alexander's dialogic teaching: benefits and challenges
6. Four dimensions of 21st century teaching and learning
7. A five-stage process for leading and managing change

1. What is dialogue and why is it important?

Although the concept of dialogue has long been a fashionable word, there is no consensus on a precise definition. Nonetheless, a richer understanding of how people learn more effectively and achieve strategic change through dialogue is emerging.

Dialogue is not simply talk or the sharing of ideas. It is a

structured, extended process leading to new insights and deep knowledge and understanding and, ultimately, better practice. There is a strategic orientation implicit in dialogue aimed at advancing beyond participants' initial stages of knowledge and belief. As Bereiter and Scardamalia note:

"In every kind of knowledge-based, progressive organization, new knowledge and new directions are forged through dialogue... The dialogue in Knowledge Age organizations is not principally concerned with narrative, exposition, argument, and persuasion (the stand-bys of traditional rhetoric) but with solving problems and developing new ideas" (2005).

Bereiter and Scardamalia define 'dialogic literacy' as the ability to engage productively in discourse whose purpose is to generate new knowledge and understanding, in contrast to 'functional literacy' the ability to comprehend and use communication media to serve the purposes of everyday life. Dialogic literacy is thus "the fundamental literacy" for a knowledge society and "educational policy needs to be shaped so as to make it a prime objective" (2005).

In a similar vein, Alexander suggests 'dialogic teaching' is more systematically searching, reciprocal, extended, and propelled by deep knowledge and understanding, consistent with the Vygotskian tradition, Bruner's concept of scaffolding, and many educators' experiences in developing classroom dialogue over the last few decades.

Beyond the old idea that reading and writing are the only 'real' work (Alexander, 2005), there is thus increasing recognition of the unique contribution of structured talk to effective learning such as students being skilled up for extended dialogue that goes far more deeply (than may be customary) into a subject area, issue, or problem.

As well, Isaacs at the MIT Center for Organizational Learning contends that dialogue provides "a potentially critical foundational process for creating new "infrastructures for learning" within modern organizations" (1994). He identifies four themes suggestive of the powerful, potentially radical possibilities for leaders, managers, and change agents:

1. Dialogue seems to be emerging as a cornerstone for "organizational learning".
2. Dialogue appears to be a powerful way of harnessing the inherent self-organizing collective intelligence of groups of people and of both broadening and deepening the collective inquiry process.

3 Dialogue shows possibilities for being an important breakthrough in the way people might govern themselves, whether in public or private domains.

4 Dialogue shows promise as an innovative alternative approach to producing coordinated action among collectives.

2. Why is dialogue so infrequent and difficult?

"Organizations require a minimal degree of consensus but not so much as to stifle the discussion that is the lifeblood of innovation", note Evans and Genady (1999), who observe that the constant challenge of contrasting ideas is what sustains and renews organizations. However, despite the correlation between dialogue and strategic change and performance improvement, dialogue would seem to be practiced infrequently and often more by chance than by design. As Anderson observes,

"... the idea that dialogue might occur in a meeting, although not absurd, is at variance with the very idea of most meetings. ... Meetings normally function to inhibit the outbreak of dialogue."

What makes dialogue so infrequent and difficult? There are no definitive answers to this problem. Research needs to inquire into the 'systems-level' and 'person-centered' factors that enable and constrain emerging pedagogies such as structured dialogue. Yet to be fully understood is how and why dialogue is often so compromised in organizations (business firms, government departments, health agencies, etc.) and educational settings.

Despite the mounting evidence that classroom dialogue increases student achievement, school research conducted by Nystrand (1999) and others also indicates that dialogic discourse is rare - taking up only about 5% of instruction in the more than 100 middle and high school classes in their study. Their most striking finding is the virtual absence of structured talk among so-called "lower track students," obviously pertinent to past failures to reduce the educational achievement gap based on socio-economic status.

Observing classroom practice in five countries, Alexander was also struck by the marked differences in students' confidence and competencies with (and opportunities for) structured talk and deep learning. In some of the countries,

"...talk which in an effective and sustained way engages students cognitively and scaffolds their understanding is much

less common than it should be" (2005).

For dialogue to become more frequent and effective in generating positive outcomes in schools and other organizations, it requires both pedagogical and technological change.

3. Face-to-face and computer-mediated dialogue

Dialogue typically refers to face-to-face interaction using spoken language. However, dialogue is not limited to speech. The uses of dialogue can be considered as face-to-face communication and computer-mediated communication. Research is looking at how dialogue is an integral part of computer-mediated communication, creating what some refer to as a new form of oracy that is not speech and not writing but a hybrid fusion.

Some of the most interesting research also examines how computer-mediated dialogue and Internet use can enable learners to move freely between hyper-linked theoretical and empirical levels of knowledge. Pedagogical knowledge and skills combined with technological tools and understandings can assist learners to develop the best mix of empirical/factual and theoretical/conceptual learning.

This can overcome the old separation between theoretical learning and the learning of skills and factual information, blurring the boundary between knowledge and skills and having positive implications for dissolving the old academic/vocational divide.

As group discussion and dialogue often take place on a computer screen rather than in verbal exchanges, another possibility arises. As Wells (2000) points out, dialogue in the oral mode obviously has a serious disadvantage as a medium for collaborative knowledge building: it leaves no record of what has been jointly developed and understood.

For dialogical classrooms and organizations to emerge, the pedagogical shift to deeper theoretical and conceptual learning needs new technological tools. Indeed, the vision for 21st century education may well be that all learners will become pedagogically and technologically literate, i.e., knowing how best to access and develop deeper knowledge and understanding, as the basis for more effective lifelong and life-wide learning for all.

4. The pedagogy, technology, and performance shift

As I have argued elsewhere (Abbey, 2004), countries such as Australia are on the cusp of a combined pedagogical and technological revolution with profound and far-reaching consequences for education and training and the economy and society. This revolution is comparable to the last great pedagogical transition that took shape in the 1500s when printing made an unprecedented era of educational change possible (McClintock, 1992).

My own research also suggests that the alignment between new pedagogies and new technologies is the single most important factor for optimal performance in any organization as well as the key challenge for those seeking to develop 21st century teaching and learning. In the case of schools, it is clear that the possibility of significant and sustained improvement is doubtful without systematically dovetailing the two.

However, many organizations and schools are yet to develop the appropriate new pedagogies for realizing the potential of technology. The following equations capture the problem of the relationship between emerging pedagogies, new technological tools in ICT and new technology areas such as nanotechnology, and the prospects for significant and sustained performance improvement (PTP):

- Old pedagogy + old technology = low performance improvement.
- Old pedagogy + new technology = mild performance improvement.
- New pedagogy + old technology = mild performance improvement.
- New pedagogy + new technology = high performance improvement.

Strategies that have succeeded in aligning new pedagogies and new technologies for performance improvement are not the norm in most organizational settings, with some new technologies simply being used to enliven old pedagogies. Learning technology can simply transfer old pedagogies to an electronic medium, even if old pedagogies such as student-centered learning dating back to the Renaissance are given a contemporary spin.

Although advances are taking place in both pedagogy and technology, to some extent, however, they are still taking place separately. Notwithstanding the countless examples of good practice in schools and other organizations contrary to this observation, as Bereiter in *Education and Mind in the Knowledge Age* (2002) cautions:

"Something is going on in elementary schools across North America that might strike the detached observer as insane. Millions of dollars are being poured into high-tech equipment that is used mainly to produce the kinds of 'projects' that in an earlier day were produced using scissors, old magazines, and library paste".

Pedagogy and technology have developed with a considerable degree of independence from each other. These two bodies of knowledge have been generated by distinct professions with independent traditions, notwithstanding the fact that many educators and classroom teachers are at the forefront of synergistically integrating the two.

The relationship between pedagogical and technological change is, however, becoming more intimate. The emerging pedagogy/technology of structured dialogue is both a cause and a consequence of this new intimacy. Future advances in dialogue - with implications for performance and problem-solving in all organizations - will combine new pedagogies and technologies in subtle and ingenious ways.

But pedagogical change is overshadowed by an over-emphasis on technological change. There is still too little interdisciplinary research which has examined the potential of new technologies to support a genuinely new pedagogy. Contemporary pedagogical issues, which can be either glossed over or ignored in a discourse dominated by technology and assessment issues (Scardamalia, 2001) include, above all, the primary challenge of how best to develop deeper knowledge and understanding. As Scardamalia observes,

"... although curriculum standards give a nod to it, when it comes to specifying in detail what is to be taught and tested, understanding is typically replaced by factual knowledge" (2001: 173).

5. Alexander's dialogic teaching: benefits and challenges

To develop pedagogy which makes productive use of emergent technologies, both inside and outside the classroom, it is clearly important to generate advances in pedagogy per se. In turn, this can be a step towards better utilizing computer-mediated dialogue. In this respect, two publications of importance for 21st century teaching and learning are Robin Alexander's *Culture and Pedagogy: International Comparisons in Primary Education* (2001) and *Towards Dialogic Teaching: Rethinking Classroom Talk* (2005).

Concerned by the marked differences in students' competencies with structured talk across five countries, Alexander identifies a key challenge: how best to transform classroom conversation into a more structured dialogue whose function is cognitive as well as social. Unpacking the principles and practicalities of structured talk, he uses the term 'dialogic teaching' for teachers and students building on their own and each others' knowledge and ideas and chaining them into coherent lines of thinking and inquiry.

Alexander calls for adjustment in the ratio of written to oral tasks and activities and for teachers to be supported to make more use of oral assessment, so that they can better assess understanding from what students say as well as from what they write. Indeed, considering the strong correlation between oracy and literacy and numeracy, the balance of reading, writing, and structured talk across the curriculum is of such significance that, as Alexander suggests, it is in need of urgent review in many countries! Alexander (2005) also discusses interim findings from two dialogic teaching development projects in the UK, which provide positive evidence of the following changes:

- Teachers are constructing their questions more carefully. Questions starting with 'What?', 'Who?' and 'How many?' are giving way to 'Why?' and 'How?' Teachers, then, are balancing factual recall or test questions with those which probe thinking. 'Now who can tell me...?' questions, and competitive hands-up bidding to answer them, are being used more discriminatingly.
- Student contributions are more diverse. Instead of just factual recall, there are more contributions of an expository, explanatory, justificatory or speculative kind. There is also reduced pressure on students to provide instant responses, with student-teacher exchanges becoming longer and more collaborative.
- Students are answering more loudly, clearly, and confidently, and at greater length, and speculating, thinking aloud, and helping each other. Teachers and students are beginning to build on questions and answers, adopting a questioning strategy of extension (staying with one student or theme) rather than rotation (questioning round the class).
- There is greater involvement of so-called 'less able' students, who are finding that the changed dynamics of classroom talk provide them with alternative opportunities to show competence and progress, and of quieter, more compliant children 'in the middle' who are often inhibited by unfocused

questioning, the competitiveness of bidding, and the dominance of some of their peers. The reading and writing of all is thus benefiting from the emphasis on talk, confirming that "the traditional English idea of literacy without oracy makes little sense".

Alexander also acknowledges the problems "in attempting to encourage what, in British classrooms, is in effect a transformation of the culture of talk and the attendant assumptions about the relationship of teacher and taught". The achievement of truly deeper learning through complex scaffolding is obviously more demanding of teacher knowledge and skill than imparting information or testing recall through rote or recitation. To summarize Alexander's other recent findings, difficulties include:

- In the pilots, there is a significant gap between teachers who are achieving real change and those whose practice has shifted relatively little. Alexander notes that the proportion of teachers in the two projects whose work consistently is dialogical remains as yet fairly small.

- Although students are being given more time for thinking through their responses to questions, and are more frequently encouraged to provide extended answers, it is rather less common for answers to be responded to in a way that helps the student and/or the class to learn from what has been said. It remains the case that after such extended responses the feedback is often minimal and judgmental ('excellent', 'not quite what I was looking for' or the not-so-ambiguous 'Ye-es...') rather than sufficiently informative and scaffolding to promote deep learning.

- As yet in the two pilots, insufficient attention is being given to the repertoire of learning talk, and the systematic building of students' capacities.

6. Four dimensions of 21st century teaching and learning

Developing dialogic teaching clearly requires sustained input, support, and professional learning. What follows is a framework for assisting educational leaders to embrace emerging pedagogies/technologies such as dialogical teaching. In Victoria, some schools are experimenting with this four-dimensional model, using it as a basis for developing their own 21st century teaching and learning - and professional learning - frameworks.

The usefulness of this model is that it enables us to place

structured dialogue - or any other strategy for change - within a broad context that is meaningful at the system-wide, school-wide, and classroom levels. This is significant as the interface between macro and micro levels in educational research and change is not always explored systematically.

These four fundamental strategies and areas of professional learning that, arguably, hold the most promise for achieving dramatic and sustained performance improvement and reducing the achievement gap are:

1. Deep learning, including deep knowledge and deep generic skills, using the power of transferable concepts, deep learning at the interfaces in emerging areas such as nanotechnology, and new assessment practices consistent with this. Equipped with deep conceptual tools and the capacity to think and learn beyond the old insulated subject areas and the academic-vocational and arts-science divides, a new generation of broad spectrum specialists is emerging.
2. Relationship-building, i.e., how best to optimize individual development within the context of quality communication, collaboration, and community building. Elements include new knowing how best to develop deep knowledge in small groups, building P-12, K-16, and other unified learning communities, and the efficient and effective use of the interactive capability made possible by ICT.
3. Strategic leadership, i.e., new models of dispersed leadership, developing overarching governance structures, new approaches to student leadership and governance, and best practice in classroom management. It includes Garratt's four governance tasks - policy formulation, strategic thinking, supervision of management, and accountability - as interactive elements of a learning system.
4. Futures thinking, i.e., futures studies, strategic foresight research, prevention and early intervention for improved learning and health outcomes, easy-to-navigate Internet pathways for deep learning, improved pathways planning and transition support for students and teachers, and moving from separate tracks (with different expectations for different groups) to seamless educational delivery.

Comprising a coherent framework for 21st century teaching and learning, each of these four dimensions can be placed along a continuum - from low to high, poorly developed to well-developed, etc. All four of the dimensions are critical. None is sufficient by itself and each profoundly influences the others. 21st century leaders/learners are likely to increasingly

cultivate these four dimensions within themselves and in groups/teams.

7. A five-stage process for leading and managing change

In working with schools and other organizations, a five-stage process is emerging that serves as a means for leading and managing change across these four areas. This process avoids "projectitis", i.e., the tendency toward "add-on" projects and initiatives without creating a framework for leading and managing change. Each stage informs the next and provides feedback into the previous one.

Relevant to all learning organizations (not only schools), the five stages are:

1. Initiating a future-focused, knowledge-building dialogue by asking: "what can be done to significantly improve outcomes and performance?"
2. Examining how best to tap the power of the pedagogical and technological revolution and facilitate the pedagogy, technology, and performance shift.
3. Mapping against the four fundamental dimensions all current and proposed change initiatives within a school or any other organization and identifying and supporting the most strategic initiatives (such as structured classroom dialogue) with the potential to deliver powerful results across all four dimensions.
4. Continuing to create a more coherent strategic framework, grounded in a good theory or model of change, and aligning organizational structure to strategic goals.
5. Enabling the synergy between practice, policy, research, and theory to further expand in density and deepen in significance.

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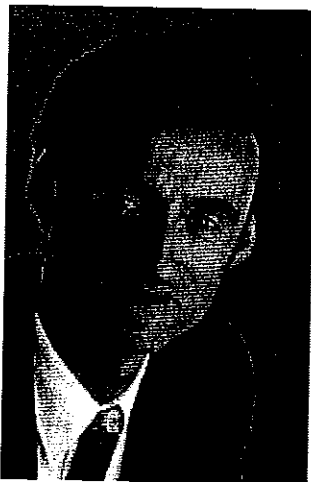
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