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Chapter 8

Co-constructing changes to classroom practice: Insights from qualitative data

“The future of an organization is perpetually constructed in the conversational exchanges of its members as they carry out their tasks.”

(Stacey, 2001, p.181 in Fullan, 2003, p. 44.)

Introduction

A decade ago, Fullan (1993) claimed that teachers needed a new mindset from which they could “deal with change, learn from it, and help students learn from it” (p. ix). He discussed ways that educators could become “agents, rather than victims of change” (ibid). Here, co-construction is presented as a system for unprecedented commitment to the sharing, negotiation, reflection on and intentional building of new thoughts and practices with classroom teachers.

In this study participants shared, exchanged and built theories of practice. As sharing made constructs and practice more explicit, the teachers and I transformed our individual mindsets to co-constructed pedagogy for early childhood classrooms. We came to understand how to influence transitions in personal constructs and pedagogy. We became active participants in change. Now, insights from this study are drawn together and connections to data made explicit.

In earlier chapters, I have discussed co-construction theory and practice as the next stage on from social constructivism, a way to enhance the professional development of teachers, and a way to effect change in teachers, teaching and schools’ language support systems. Here I leave the structured narrative to complete a final analysis of research data, methods and conclusions. I invite readers to be challenged, enthused and stimulated as they reflect on, critique and consider the place of co-construction in their work.

Research: Questions, outcomes and implications

Perry (1995) supports the use of action research by doctoral candidates but cautions that the thesis “may be messy, inconclusive and may be unrelated to propositional knowledge published in the literature of a discipline” (p. 9). Mindful of that caution, my purpose in this chapter is to reiterate connections between research questions, action research cycles, data sources, analytical statements, generalizations and relevant supportive literature. In this way, I argue that since “research has become a much broader set of activities,” researchers must choose from the array of approaches and methods to address the issue, context and purpose of their research (Stringer, 2004, p. v). Indeed, Stringer supports the effectiveness of action research as a way to “assist educators and families (to) improve their educational practices” (ibid). I believe that the current research demonstrates that potential.

Structured narrative supported the discussion of research questions in Chapter 1, my choice of participatory action research in Chapter 2, and details of the Language Development Project in Chapter 3. The development of analytical statements and subsidiary questions to interrogate data (as discussed in chapters 4, 5 and 6) explains action research as an appropriate methodology for this study. The deliberate use of constructivist interpretive methods with the participant teachers adheres to Dick’s (1993) recommendation, “participation by the client group as *informed* sources of information gives you a better chance of discovering what they know and what you currently do not” (p. 16). In turn, research generalizations (Chapter 7) are borne out of “legitimate rigorous action research methodology” that requires an explicit methodological framework (Dick, 1993, p. 18). That framework, detailed in Chapter 3 counters concerns that participatory action research is otherwise a “generic methodology” sometimes chosen when the research context is too ambiguous to allow a more detailed choice (Dick, 1993, p. 19).

The explicit framework, in this case constructivist interpretive method, developed alongside action research questions and processes to pursue, refine and challenge developing generalizations. In this study, teacher input and co-constructive processes were the focus as well as the method of investigation. Hence my use of iterative methodologies that reconciled data interpretations, the integration of participants’

opinions, researcher observations, reference to literature, triangulation, and further data, to this one report. The focus in Chapter 7 was on the content of research generalizations. In this final chapter I present research methods and connections in tables with the intention of leaving no doubt that the research processes selected, sustain previous generalizations.

Responses to research question one

In Chapter 3, Appendix K was referenced to represent connections between each action research cycle, teacher and researcher involvement. Now tables one through three focus on each original research question and clarify connections to the action research cycles, data sources, analytic statements, generalizations and available theory. I begin with Table 1 and research question one, *To what extent do teachers' personal constructs of language-based educational risk determine their pedagogy for students at risk.*

Prior to this study, both personal construct theory and social judgement theory were applied to numerous practical situations in which beliefs and judgements were known to influence the actions of individuals. Vygotskian theory was well known in relation to children's learning with implications for teaching processes (Wilhelm, 2001; Wilhelm, Baker & Dube, 2001). In this study, connections between personal construct theory, social judgement theory and Vygotskian thinking guided and engaged my interpretations of teachers' data specific to their learning about teaching.

Feasible connections between teachers' personal constructs and personal pedagogies stimulated the first research question in this study. An important and practical issue was that of supporting teachers to consciously and confidently select and implement appropriate pedagogy for students at educational risk within their classrooms. Teachers collectively identified a need for support with this task. Neither they, nor I, consciously understood the importance of personal constructs as a basis for explaining current pedagogy or as a fulcrum of change, prior to engaging in this study.

Table 1. **Data, research processes and literature relevant to research question 1**

Focus	A.R Cycle	Data	AS	Generalization	Literature
Constructs & Practice	<u>1</u>	Participant	AS1	1	Batten, Marland
	2	observations,	AS2	Transitions in	& Khamis, 1993;
	3	Individual	AS8	learning &	Bennett, 2003;
	4	teacher	AS9	teaching	Bennett, Rohleiser &
		interviews,	AS10		Stevahn, 1991;
		*Co-	AS11		Bridghouse, 2002;
		constructed			Calderhead, 1998;
		practice,			Carlgren et al., 1994;
		Staff PD,			Diamond, 1991;
		Triangulation			Elbaz, 1987;
		data,			Fullan, 1992, 1993;
		Outcome			Hargreaves & Fullan,
		summaries,			1998;
		Daily research			Loughran & Russell,
		journal.			1997;
					Pugach & Johnson, 1990;
					Korthagen & Russell, 1995;
					Tripp, 1987, 1993;
					Twomey Fosnot, 1989;
					Wilhelm, 2001;
					Wilhelm et al., 2001.

Note. AR = Action Research (cycle). Underlining indicates that AR cycle 1 was when foundational data for this research question were collected. AS = Analytical Statement (number),
 *Co-constructed practice is documented as detailed in Chapter 3 to include working notes from discussions and planning with participant teachers, dated daily lesson plans for each early childhood class, further oral and written language samples / assessments collected during the implementation of classroom activities, copies of teacher-researcher activities prepared for classroom use, notes detailing activities and outcomes (given to teachers after each shared classroom session) and incidental written correspondence between research participants. Dates, teacher identification codes, school year level, classroom numbers, and student identification codes were added as appropriate to each data type.

As the teachers and I identified students at educational risk and theorized about their classroom learning and teaching needs, we shared reflections on actual and proposed classroom practice. The research emphasis shifted from a focus on the importance of the OWLD, to influential factors shaping teachers' thoughts and pedagogy, and then to the potential of co-constructive processes for changing teachers' thoughts and pedagogy. Throughout the project, theory and practice were interrogated, informed or contradicted by research data so that the theory and practice of co-construction evolved from classroom research. Now, generalization one claims, *Co-construction effects transitions in teacher thinking and pedagogy*. This is an outcome of emancipatory action research (Carr & Kemmis, 1986; Perry & Zuber-Skerritt, 1992).

Over the research year, our shared reflections and interpretations of data about influential factors confirmed the importance of reciprocal, interactive, intentional and continuous learning for effective co-construction. When teacher Penny was invited to review her thinking and practices in Term Four she stated,

I don't consider myself an expert so I would hate to jump in with some strategies but... I've got a pretty good idea of what works and ...how the child will go (T1PDI266). I think all the strategies you've introduced to me, I could use again... whether it's in a small group or the other ideas we've come up with for the whole class. So I'd definitely use them (TIPDI267).

Penny volunteered information about what she would do when she recognized a need for further learning. "If there was something that was out of my depth then I'd go to a specialist... But I'm very happy to do any strategies at the moment because... I have seen from those strategies what can happen" (ibid).

The first generalization claims that co-construction effects transitions in teachers' thinking and pedagogy. Indeed, co-construction was a means of selecting, organizing and interpreting classroom information and interrogating diverse understandings through action research. Given that some teachers' tacit personal theories only become clear (or clearer) to them when they engage in metacognitive processes such as co-construction, there are potentially many factors determining co-constructive outcomes.

In Chapter 7, I suggested that both classroom teachers and those with specialist language skills might benefit from co-constructing classroom planning, to enhance their understanding of teaching and students' learning. Without transformation in teacher thought and pedagogy, co-construction fades from being a tool of choice towards best practice in primary pedagogy, to a description of another collaborative partnership. Incremental change is always the intended outcome of continuous co-construction of language development plans with classroom teachers. More specifically the intent is to build theoretical perspectives accommodating particular classroom contexts, participants' constructs and current child language and early childhood education theory.

Co-construction towards the implementation of best practice language teaching with classroom colleagues provides numerous opportunities for change in participants' thinking and pedagogy. The templates given in Chapter 5 along with the six minimal conditions for effective co-construction (in Chapter 7) may support the future use of co-construction processes as matched to participants and their contexts of use.

Responses to research question two

Research question two asked, *Which influential factors shape early childhood teachers' thoughts and pedagogy for students at educational risk?* Connections between this question, research processes, data, available research and generalization two, are given in Table 2. In previous chapters I have detailed how research participants came to know that processes such as reciprocal and interactive learning and personalized co-construction, influenced the building of participants' language development expertise. This tabular representation confirms the research framework supporting the second generalization. *Co-construction builds expertise.*

Table 2. **Data, research processes and literature relevant to research question 2**

Focus	A.R Cycle	Data	AS	Generalization	Literature
Influential factors in co-construction	1 <u>2</u> <u>3</u> 4	*Co-constructed practice, Written & oral feedback from staff, Final teacher interviews, Daily research diary, Notes from staff workshops, Triangulation data, Staff Evaluations, Outcome summaries.	AS3 AS4 AS5 AS6 AS12	2 Development of participants' expertise	Bannister & Fransella, 1974; Batten et al., 1993; Bennett, 2003; Bennett et al., 1991; Bridghouse, 2002; Diamond, 1991; Elbaz, 1987; Loughran & Russell, 1997; Pugach & Johnston, 1990; Rice et al., 2001; Tripp, 1987, 1993.

Note. AR = Action Research (cycle). Underlining indicates the AR cycles in which most data for this question were collected. AS = Analytical Statement (number),
*Co-constructed practice is documented as detailed in Chapter 3. Of relevance here are working notes from discussions and planning with participant teachers, dated daily lesson plans for each early childhood class, further oral and written language samples / assessments collected during the implementation of classroom activities, copies of teacher-researcher activities prepared for classroom use, notes detailing activities and outcomes (given to teachers after each shared classroom session) and incidental written correspondence between research participants. Dates, teacher identification codes, school year level, classroom numbers, and student identification codes were added as appropriate to each data type.

Connecting data to research questions and generalizations in tabular form is a useful way to summarize the complexity of action research processes through sequential research cycles. Yet, tabular presentation does not highlight the relative importance of the multiple data types to the iterative process as in previous chapters. For example, the question of perceived expertise for individual teachers, while able to be observed, discussed and intentionally co-constructed, was more accurately portrayed in the teachers' words. Spontaneous discussions, written reviews of the LDP each school term, teachers' evaluations of the Language Development Project in Term Four, and the triangulation data elicited from teachers by other researchers, all demonstrate the importance of participants' voice as well as researcher interpretations. The following reflective comments from participant teachers provide further evidence of this fact.

When asked to reflect on the outcomes of the LDP in her class, half way through the research year, Toni wrote, "I like observing your little group and putting ideas into action" (T2T,29/6/00). She added spontaneously,

The written reporting is fantastic, but only give me what you need to. The most useful feedback is the immediate feedback at the end of a session. It is verbal and I can clarify any questions... If I only learn a few strategies to make me a better teacher- it is worth it (ibid).

These comments were significant at a time when I was personally disappointed that Toni and I were not engaging in more shared planning. This written feedback, from Toni's point of view, suggested that the perceived benefits of the LDP were greater than I had interpreted for her. Later in the year Toni provided a brief written evaluation of her learning during the LDP. She commented on new strategies being the most useful feature of the LDP. "I have some new strategies to use and I have seen success with kids" (T2TE21/11/00).

The importance of multiple opportunities to provide data, and different modes of contribution is also displayed by Toni's data. She usually gave lengthy, detailed and anecdotal responses during interviews and spontaneous discussions. She expressed her preference for oral, rather than written interactions, frequently during the

research year. During her final interview (6/12/00) Toni reflected on her perceived need for further language specialist input. “We’re just saying this kid needs to be looked at more closely. Then we will do our job as teachers but early intervention is the key” (T2TDI209). She reflected on her learning, and that of her peers, through this action research,

That’s the one thing as teachers we’ve learnt. We do reading and spelling but I think what you have shown us is that the oral really seems to be the first one (T2TDI210). What you’re saying is what you *use*... we’re getting more aware... 12 months down the track we’ll have a bit more expertise, like (Penny’s)... That’s what you can do with a bit of help and assistance (T2TDI212-214). Bringing it into the classroom makes it practical (T2TDI229).

Similarly, I relied on the comments of Teacher 4, Suze, to know how she was feeling and what she was ready to address next in our co-construction. Suze was very open to co-construction but early in her first year of teaching, she “didn’t know what she needed to know” (T1S,29/2/00). Suze wrote at the end of school Term Two that she had learnt strategies such as “sounding out, clapping words, counting words on fingers, (and) listening strategies” (T1S,3/7/00). She added that she considered the language development strategies we had shared as beneficial for the whole class but she requested more explanation to understand the strengths and needs of individual children because of her “lack of experience” (ibid). Suze’s written evaluation of her learning through the year included, “great strategies for helping children with reading” (T1SE21/11/00). She added that she had been encouraged to try new language development strategies such as “editing work and ‘planning’ sentences orally before writing them” (ibid).

Suze’s words affirm her expectation to learn more and her ability to focus her learning by initiating co-constructive discussions. For example, Suze’s intent to learn more about the identification of children with problems was clarified by her written evaluation (ibid). Soon after, Suze’s final interview, confirmed her intent to focus on ways to observe and report on learning outcomes for individual children (T1S,30/11/00). She planned to implement appropriate strategies learnt and used

during the LDP to her upper primary class in another school in 2001 (T1SE21/11/00).

When reviewing Term Two outcomes as planning for Term Three, teacher Jacqui, commented on her expertise relative to her students' needs. She wrote: "The children are developing an awareness of their speech and also ways to correct themselves. Children are demonstrating learnt strategies to deal with their various speech problems" (TKJ29/6/00). I had observed Jacqui using co-constructed strategies with her students. Her self-evaluation indicates the value of nuances expressed through her self-reflections. "I need to familiarize myself with these strategies further so that I use them more frequently and more confidently. I try to integrate strategies during mat times or incidentally (but I) would like to become more confident in doing this" (ibid).

At the time of her final interview in Term Four, Jacqui commented on the usefulness of our written documentation during the year. She explained her plan to further develop her confidence and expertise with speech-language strategies for early childhood students. "I've got all the stuff you've given me in a file... especially the specific strategies" (TKJDI 119-120). Jacqui added,

Even when next year's people come in... I can teach myself. Quite a few of the (strategies) I use. There's others I'm not so familiar with and so (I) tend not to use them because (I) have to be ready to use them (TKJDI123-124).

The next day, Jacqui wrote that she had learnt, "that some children need to develop a variety of strategies to assist them with their language, and different ways that I can help them" (TKJE21/11/00). She added that she would like to learn more about "developing these strategies and being able to identify specific strategies children need" (ibid).

These examples show the essential use of teacher data to verify researcher observations and interpretations in action research. As suggested throughout this text, constructivist interpretive processes translate classroom-based action research from a focus on the practical activities to research that confirms how and why change

processes occur. Working with teachers, I was able to show that co-construction theory and practice extends teacher reflection and makes explicit the ways in which teacher reflection can contribute to self, peer and student learning. Co-construction relies on deep respect and demonstrable understanding of individual teachers and their particular classrooms to open relationships to learning, for individuals and with peers.

Elbaz (1987) attended to “the process by which teachers become aware of their knowledge” (p. 46) to recognize gaps between teachers’ perspectives of their knowledge and researcher reconstructions of teacher perspectives. As in co-construction, she concludes that teacher reflection needs to be followed with opportunities to generate and extend different views, so that the process of change becomes “self-sustaining” for independent teachers (p. 52). The examples from Toni, Suze and Jacqui (above) show that they all expected to sustain their professional development.

The current research supports Elbaz’s (1987) recognition of the need for reflection and exchange as agents of change in teacher thinking and pedagogy. In this study numerous examples and interpretations from teacher participants, through four cycles of action research, were required before I could offer a theory base and practical templates for co-construction. Extensive data and a constructivist interpretive approach to analysis and generalization contributed to our understandings about how and why co-construction processes can provoke teacher change in thinking and pedagogy.

In particular, Maree’s story (Chapter 6) explains the importance of the active sharing of constructs, ideas, issues and practical activities so that reflections on classroom practice are the catalyst for, rather than the primary method of, change. In her written evaluation, Maree reflected that through the LDP she had become “much more aware of the need to constantly listen and role model specific speech patterns for individual children” and that she “felt confident to use the new strategies and that (her) old techniques are OK” (TPME21/11/00).

Generalization two claims that co-construction builds expertise. The diversity in outcomes and processes used with individual teacher participants through this action research suggests that transformations in teachers' thought and pedagogy are potentially endless. This study responds to Diamond's (1991) belief that teacher education should focus "more on teachers' subjective experiences and less on objectively gathered or received information about teaching and learning" (p. 11). Co-construction addressed the need to support teachers to plan for their students at educational risk in their classrooms. By acknowledging and valuing teachers' initial concerns, unfamiliarity, challenges and confusions, we could move to co-constructing explicit and appropriate pedagogies with these students.

Responses to research question three

Research question three asked, *What are the implications of the co-construction of classroom language development plans for effecting transitions in teacher thought and pedagogy?*

Table three illustrates connections between this research question, action research cycles, data, analytical statements, relevant theory and the third generalization. *Co-construction may encourage a culture of learning in schools.* As discussed in Chapter 7, this generalization suggests that co-construction processes can inform future pedagogy, learning outcomes and school change. Given that question three is about the potential of co-construction, teacher data from this study can be used to indicate intent but not confirm later outcomes from this action research specific to teachers', students, the project school or other educational contexts.

Table 3. **Data, research processes and literature relevant to research question 3**

Focus	A.R Cycle	Data	AS	Generalization	Literature
Implications of co-construction	1 2 3 <u>4</u>	*Co-constructed practice, Staff workshops & P.D. sessions, Final teacher interviews, Triangulated data, Staff evaluations, Daily research journal.	AS12 AS13	3 Potential development of a culture of learning	Bennett, 2003; Clark, 1992; Elbaz, 1987; Fullan, 1993; Fullan & Hargreaves, 1996; Hall & Jones, 1976; Hargreaves & Fullan, 1992; Joyce & Showers, 1988; Ladyshevsky, 2004; Loucks-Horsley, 1996; Mann, 2002; Thiessen, 1992.

Note. AR = Action Research (cycle). Underlining indicates the AR cycle in which most data for this question were collected. AS = Analytical Statement (number).

*Co-constructed practice is documented as detailed in Chapter 3. Of relevance here are working notes from discussions and planning with participant teachers, copies of teacher-researcher activities prepared for classroom use, and incidental written correspondence between research participants. Dates, teacher identification codes, school year level, classroom numbers, and student identification codes were added as appropriate to each data type.

Another indication of the co-construction processes having encouraged a culture of learning in the project school comes from the staff written evaluation sheets. All of the teachers who completed the project evaluation identified aspects of early childhood language development that they would like to know more about. All except one gave reasons why they would implement language development strategies, as used in the LDP, with other students in the future (TKJE21/11/00;

TPME21/11/00; TPSE21/11/00; T1PE21/11/00; T1SE21/11/00; T2TE21/11/00; T2TE21/11/00; TSKE21/11/00). Teacher, Coral, who did not give a reason, indicated that she felt able to select language development strategies to match the needs of her students (T2CE21/11/00).

Diamond (1991) refers to the “transformation of teacher’s orientation towards his or her practice” (p. 47) as one of great potential for school change. He challenges teacher educators and researchers to support teachers “to see themselves as self-directing and self-determining, as professionally competent and as capable of trying alternative pedagogies” (p. 51). In any school there will be alternative viewpoints, interpretations and responses to change. Co-construction draws out these multiple voices to contribute to new perspectives. Teachers are encouraged and empowered to participate in change rather than to resist constructs incompatible with their own. Co-construction is a mutual rather than an elitist view of teacher support.

The influence of opportunity to plan one’s change cannot be under estimated. Diamond (1991) recommended the revisiting of Kellyian principles of personal construct theory, and considering socially constructed learning, to facilitate change in schools. The current study extends Diamond’s ideas from what is desirable to what is possible. Since the potential for change is enhanced when learning is negotiated and shared, study outcomes raise questions about the possible application of co-construction to teacher education, performance management and school change.

Richert (1997) also discussed the challenge of change for schools. As in the current study, she reiterated the importance of teachers as learners acting with intent in their classrooms, and their need to join with parents, other teachers and administrators to implement change agendas for schools. Here, the experience of co-construction demonstrates how the negotiation and sharing of classroom thinking and practice prompts consideration of whole school issues such as future professional development and teacher support services. Teachers engaged in classroom-scale change were inclined to contribute their opinions about whole school issues.

In 1993, Fullan wrote that teachers were not yet positioned to play the vital role as change agents. However, he pre-empted the individual as “inquirer and learner” also

able to contribute to the shared purpose of teamwork (p. x). Fullan acknowledges the current and increasing complexity of teaching as a job. Given the constancy of change in school environments, Fullan encourages teachers to extend what is valued and effective so that others can learn to contribute to change. Teacher stories in the current study showed how teachers spontaneously shared their successes with others. Here, co-construction is a way to learn about change. A cautiously optimistic view is that it is also a way for teachers to “teach change” to peers and administrators.

Common outcomes

My conviction regarding the value of structured narrative to report this action research is based on the notion that co-construction is about effecting change with individuals, given the current culture, policies and practices of their schools. This study provides general and specific templates for co-construction processes, proposes six minimal conditions for effective co-construction, and hypothesizes about the overlap between consultancy, collaborative and co-constructive approaches to teacher support. These are the (developing) theoretical outcomes from this action research.

As such, the tentative theory of co-construction supports an essentially practical task. One can generalize outcomes for the ten participant teachers in this study. (Later I do so.) However, the drawing of commonalities is necessarily a cautious representation of co-construction. For some time I resisted the tabulation of commonalities in data or outcomes for subgroups of teachers. My concern was for the relative importance of lengthier, personalized data to represent effective co-construction. As a co-constructive partner, I expected to put effort to personalizing co-construction processes. I expected diverse outcomes for individual participants.

Commonalities in outcomes for teacher participants are feasible and, at times, useful as teachers choose to work together on common issues. However, co-constructed change, by definition, does not “aim for” common content, uniform processes or identical outcomes for individual participants. Selected teacher stories have been told to establish the premise that personalization to each teacher’s strengths, needs and context is a positive feature of co-constructed change.

I acknowledge the discussion by Dick (1993) of the trade off between responsiveness and replicability in action research. Co-construction is about change. Action research was the most suitable method of researching intended change in classrooms because it could accommodate the specifics of classroom contexts, encourage teacher participation and build constructivist interpretive processes into the research spirals. Hence, research outcomes feature a high level of responsiveness. The changes demonstrated were designed and achieved in the project school.

An alternative way to examine action research is to acknowledge its poor reputation for generalizability (Dick, 1993) and to qualify general assertions, as I do here. The tentative theory of co-construction is certainly generalizable to other school contexts. This means that one could use the templates for co-construction, evaluate the culture of learning in other schools against the six minimal conditions described in this research and accept the relative benefits of consultancy, collaboration and co-construction for staff development. Personalization processes within each school and classroom would guide the replication of this theory. Personalization is a defining feature of co-constructed practice. Personalization requires flexible, reciprocal, interactive, co-constructed learning and teaching.

Indeed, the application of co-construction frameworks from this study to other educational contexts could encourage further development, critique, amendment, rejection or improvement of aspects of it. The application of co-construction theory, implemented through action research cycles, could be considered as an attempt to replicate this study. Constructivist interpretive review processes could account for the different common outcomes or the recognition of alternative or additional influential factors to those identified here.

My hope is that those who embrace this research will do so cautiously; that they will hear the need to personalize processes, to delve deep into the specific characteristics of classrooms and reflect on the influence of particular school contexts; rather than apply these frameworks with a “one size fits all” mentality. So, why report common outcomes?

I have three reasons for doing so:

1. To reiterate the ways in which co-construction “worked” for all participants, albeit with explicit features unique to each teacher and classroom,
2. To provoke connections for readers between commonalities and features they recognize in their own teaching contexts. In this way the generalizations given in Chapter 7 can be “tested” as needed, by the future implementation and critique of co-construction theory and practices.
3. To represent the potential of a constructivist interpretive approach to action research. A constructivist interpretive mindset expects that theory and practice will be modified with the benefit of additional data, other contexts and alternative worldviews. That is what constructivist interpretive thinking celebrates. The only “correct” interpretation of qualitative research is that created and verified through reciprocal action and dialogue, by the participants in the participatory research context. As in this research, non-participants can triangulate findings against the participant researcher’s interpretations but they cannot say, “what is,” for the participant teachers.

Given that co-construction aims to be a highly responsive process, and having qualified the possible replicability of this study, Table 4 itemizes outcomes from this action research project for all, or most, teacher participants. The main data types used to substantiate these outcomes and relevant chapter references are given. In summary, Table 4 shows that co-construction processes within the project school engaged participants in the explicit and purposeful sharing of their expertise. The common intent of research participants was to enhance students’ learning outcomes, particularly for students at educational risk.

Table 4. **Common outcomes for teacher participants in the Language Development Project**

Outcome	Teachers	Chapter	Data type (main)
1. Able to describe a personal theory of educational risk.	all	4	initial interview
2. Acknowledged students as SAER (“focus children” for LDP).	all	4	initial interview, participant observation, OWLD1-4
3. Commented on characteristics of educational risk that were not language-based	all	4	as above

4. Expressed a lack of confidence in their accurate identification of students at risk, (linked to limited expertise with ECE or SAER).	most (not Penny)	4	initial & final interviews, participant observation, working notes
5. Acknowledged that managing SAER children was "part of teaching" (T2T9DI32)	all	4	as above
6. Perceived that some expertise with child L.D. or E.C. was necessary to identify SAER.	all	4	initial interviews
7. Described students to illustrate personal constructs of educational risk.	all	4	initial interviews
8. Drew conclusions about SAER from observing and interacting with them in class.	all	4	participant observations
9. Requested practical strategies for supporting SAER in classes.	all	4	initial interviews
10. Needed support to translate OWLD1 to L.D. strategies for classroom use.	all	4	Review of OWLD1
11. Opined that OWLD1 alone would not significantly shape pedagogy for SAER.	all- Penny less than others	4	review of OWLD, co-construction*
12. Accepted co-construction as an opportunity to improve pedagogy for SAER & EC.	all	4	initial & final interviews, term reviews, final evaluations
13. Used Summary of sessions list given at the end of school terms 2 & 3.	most (not Toni)	5	co-construction
14. 'Input' to ensure that L.D. planning was acceptable and appropriate to context & teacher.	all (Peta-semester 1, Maree-semester 2)	5	co-construction, final interviews
15. Increased specificity in discussion of L.D, SAER & EC pedagogy during the year.	all	5-7	co-construction
16. Improved differentiation of L.D. strategies for SAER during year.	most. Needed more time with Maree	5-7	co-construction
17. Reported increments in L.D. expertise & confidence as an outcome of the LDP.	all	6-7	final interviews, triangulation data, evaluations
18. Metacognitive awareness of change	all	6	as above
19. Teacher voice and interactive learning processes influenced co-construction.	all	5-6	co-construction
20. Applied co-constructed L.D. strategies to future teaching.	most (T2CE21/11/00 is unclear)	7-8	final interviews, triangulation data, evaluations
21. Expected to continue own learning about L.D. &/or ECE	all	8	as above
21. Voluntary participation for duration of time employed in ECE at the LDP school.	all	3	initial & final interviews

Table 4 (contd.). **Common outcomes for teacher participants in the Language Development Project.**

Outcome	Teachers	Chapter	Data type (main)
22. Input to researcher learning.	all	4-8	all

Note. L.D. = language development, E.C. = early childhood, SAER =students at educational risk.
 *Co-construction data summarized in this table refers to some or all of the following documentation: working notes, daily lesson plans, OWLD1-4, further oral & written language samples, copies of classroom activities, notes to teachers detailing class activities and outcomes, incidental written correspondence. Dates, teacher identification codes, school year level, classroom numbers, student and parent identification codes were added as appropriate to each data type.

Action research and action research theses

The consideration of common outcomes for teacher participants from this action research, functions like an overview of the more detailed and informative narrative. Common outcomes can convey the sense of the change expected and achieved through the action research. Indeed, some readers might suggest that common outcomes demonstrate that the action research has been “worthwhile”. However, as discussed by (Perry, 1995), a thesis is distinct from the actual action research project.

Perry and Zuber-Skerritt (1992) describe two criteria for PhD action research, both of which are addressed here. Perry and Zuber-Skerritt state that PhD core action research needs “to progress through at least two or three cycles to uncover a distinct contribution to knowledge” (p. 205). They specify that the understanding gained in the reflection phase of the first spiral should be transferred to the second spiral. For example, Chapter 3 details how teacher participants’ reflection on the OWLD1, developed during the first action research cycle, redirected the action focus to co-constructed practice, for the second and third research cycles. Perry and Zuber-Skerritt also stipulate that PhD action research should approach emancipatory action research (rather than being merely technical or practical).

According to definitions provided by Perry and Zuber-Skerritt (1992), the Language Development Project can be described as “technical” because the aim was to facilitate the professional development of participants. The LDP is also “practical” because co-operation, participation and self-reflection by participants were encouraged (p. 205). Furthermore, the Language Development Project could be considered emancipatory since research participants share responsibilities within the project, establish collaborative relationships and aim to critique the research action against established practices (ibid). I argue that the constructivist interpretive approach to forming research generalizations, and the distinctions made between consultancy, collaboration and co-construction approaches to teacher support (in Chapter 7); are further qualifying features of emancipatory action research.

I reflect now on the use of structured narrative to explain the development of co-constructive theory and practice in one school. A critical point is that the constructivist interpretive approach necessitated the analysis and interpretation of multiple data prior to the selection and reporting of data, in any form. Extensive data were elicited and organized from multiple sources, in various ways, to provide an extensive array of thick data from which the most illuminating examples could be reported. Both the quantity and quality of the data collated from this action research facilitated the use of typical and atypical data at appropriate points in the narrative.

Narrative reporting does not require researchers to “force distinctions” (Clift, Cyster, Russell & Sexton, 1978, p. 103) as with the alternative process of construct organization using repertory grids. In this study, I was able to explore and report issues and questions arising as they contributed to an understanding of co-constructed change. Since conducting this thesis, the work of Stringer (1996) has been helpful in planning the presentation of research processes and findings to participants and other audiences. In particular, Stringer’s work on the use of concept maps, like that of Bennett & Rolheiser (2001) has encouraged my use of graphic organizers to represent connections between research theory, data and implications. (Appendix L indicates presentations of this work in progress.)

Appendix N is an example of an alternative representation on the concepts introduced in Chapter 1. Appendix K shows the overlap between action research

cycles. The action research spiral (Dick, 1993) and graphic organisers (Bennett & Rolheiser, 2001) are familiar to many teachers. The use of graphics to facilitate critical discussion of co-construction theory, processes and outcomes also accommodates Mann's (2002) recognition of the need for various research reports to suit different audiences. The idea of revisiting original data in several formats with other teacher groups is potentially educative, for teacher participants and myself.

Strengths and limitations of this study

Full consideration of the potential for co-constructed language planning in educational settings acknowledges the limitations, as well as, the benefits of the co-construction processes. In fact, some personnel will perceive strengths of co-constructed practice, as limitations. Inclusivity is one example. One's judgement of the advantages or disadvantages of inclusive classroom practice will determine how co-construction is regarded. Consider the following statements:

- Co-construction is inclusive. Educators who accept withdrawal-based service provision may perceive classroom-based, teacher-driven language development practices as contrary to their current thinking.
- Co-construction takes time. The intention is to work towards improved outcomes, within the time available.
- Outcomes and generalizations have not been tested with participants who are continually resistant to co-constructive attempts.
- The facilitation of co-construction requires openness to learning with, and from, others.
- Co-construction requires expertise in the focus area (such as early childhood language development, here). Expertise is difficult to quantify. However co-construction demonstrated the importance of each participant's unique expertise. Most participants spontaneously shared their learning.

In summary, this research demonstrates the teaching and learning outcomes achievable through co-construction. I believe the time and effort involved in the initial development of co-construction processes in educational settings is most worthwhile.

I also acknowledge some limitations of methodologies used in this research. Again, the perception of limitations (or strengths) can be linked to one's experiences, theories and worldview. For example,

- Some researchers (Shulman, 1987) recommend that the study of accomplished practice is the way to understand best practice. This study uses ordinary teachers in a rural school.
- Education research is currently outcomes-based. The focus here is to teachers' learning outcomes, in the belief that high quality teaching improves students' learning outcomes (Fullan, 1996; Rohl & Rivalland, 2002).
- This study does not compare teachers' practice. My intent was to pursue what teachers could accomplish with support, rather than to report how a sub-group of teachers excelled as individuals.
- As discussed above, action research is more responsive than able to be generalized (Dick, 1993). This research meets criterion set by Shulman (1987). Teacher data in context based research "is evidence that real teachers engage in it" (p. 370).
- This research relied on the commitment of the participants (Dick, 1993). All ten teacher participants chose to remain in the project.
- Multiple data sources are time-consuming to analyse. They also provide choice in reporting so that presented data maximizes learning (Stake, 1995).
- Structured narrative is lengthy and complex. Here, the selection of teacher data best represented the effective development of co-construction processes.
- Classrooms are complex research contexts. Participant teachers help to inform readers about the contexts and social processes in which they work.
- This research is not "scientific." This constructivist interpretive approach to action research demonstrates how meaning and learning are "embedded in each cultural context" (Stringer, 1996).
- This research reports educational change via structured narrative. I use the narrative style to reiterate the uniqueness of the change experience for research participants. As stated by Dalin (1998), "The more complex the change, the less you can force it. Change is too important to leave to the experts; personal mind-set and mastery is the ultimate protection" (p. 121).

- This thesis is non-standard. Alternatively, this thesis displays variety of form to suit the phenomenon of interest, the context and the participants (Latham, 1999). I have consciously shaped this text to provoke images and associations for understanding (ibid), as well as, to acknowledge the requirements of academic writing (Yagoda, 2004).

The current study suggests that the theory and processes of co-construction apply to real teachers with a range of expertise. However, the potential for co-constructive processes to facilitate change in teacher thinking and pedagogy needs to be examined in broader educational contexts. Future research is likely to reiterate the importance of individuals and classroom contexts as important to understanding teacher change. Studies such as the current one encourage future researchers to understand, “the gains in perspective” despite the “intensive and interpretive” demands of qualitative research (Stake, 1995, p. 46).

Final comments

Pope and Keen (1981) described “constructivist alternativism” as an innovative way forward in education (p. 34). Perhaps after decades of promise, the potential of personal construct theory can be realized. Co-construction is a way to transform teachers from isolated professionals confronted by change to a more confident, self-directing profession aware of their own expertise. Outcomes show that early childhood teachers “can be led to formally and systematically reflect on their practice in a way that has a potential to make a real contribution to developments in education” (Batten & Marland, 1993, p. 74). Teachers inform research as researchers facilitate teachers’ learning. That is the direction of school change.

Classroom-based constructivist interpretive research is complex. There exists a persistent need to include the reality of teachers, students, parents, administrators and school politics whilst keeping track of the changing research focus. The priority need is for teachers to teach, and students to learn. Some outcomes are difficult to document. They are subjective, context and personality specific, and filtered by the worldviews of the teller. Yet these are the gems of classroom based action research. They have impact when heard through structured narrative in this research genre.

Through this research, I was refreshed and educated by the honesty and connectedness of the teachers' voice. My task was to sift and select, to hear, interpret, verify, explain, co-construct and report. In the end, I understood that teachers tell their own stories more accurately than I ever could. Hence, I collected extensive data from ten participant teachers and reworked these teacher stories to one narrative. Four teachers maximized my learning. All contributed. During this process, like Stringer (2004), I reviewed my academic understandings for their relevance to the multifaceted challenges faced by teachers in classrooms and in their everyday community life. We co-constructed.

This thesis captures and shares the development of co-construction theory and practice through my reciprocal learning with participant teachers. Here I present constructivist interpretive, action research methodologies. They depend on the contributions of teachers, and support by researchers who believe in the possibility, and value, of this genre of qualitative research.

Summary

Through this research I expected to learn how to better support early childhood teachers as they planned and implemented language development practices for their students at educational risk. Instead, “co-construction” developed as a way to learn and teach “change.”

This research details systematic, interactive and reflective processes to “make education better” (Wellington, 2000, p. 183). Like Wellington, I contemplate the broad purpose of educational research. Unless educational research improves pedagogy, learning outcomes and school change, why do it? My understandings were co-constructed with early childhood teachers who taught me how to learn with, and from them. Teachers as research partners enhance interpretations of teaching, learning, educational change and the potential of qualitative educational research. All four matter. They contribute to professional growth, personal satisfaction and learning outcomes.