Chapter 7

Applications and generalizations from co-constructed change

'In the end teachers will change schools by understanding themselves'
(Diamond, 1991, p. 120).

Introduction

Responding to the diverse needs of students at educational risk requires teachers to make some transitions from familiar beliefs and practices to less familiar ones. Co-construction heightens awareness of one's own beliefs, theories, practices and experiences, as well as, those of others. It also provides opportunities to co-construct "experiential understandings;" learning from experience in the context of need (Stake, 1995). In generalizing about the potential of co-construction for effecting such change, discussion moves from the detail of individual stories to discuss patterns repeated within and between them. Of equal importance are exceptions to repeated patterns.

Generalizations about co-construct ion are linked by the theme that "co-constructed learning enhances teaching". Classroom teachers have particular expertise created from prior experiences, practice, theories, beliefs and training. In this study, teacher "expertise" is defined as a combination of personal constructs and familiar pedagogy. This definition comes from the theory base given in earlier chapters, analyses of teacher opinion, and researcher interpretations of classroom experiences. In contrast "pedagogy" refers to "the science of teaching" (*Concise Oxford dictionary,* 1951), the links between teachers' theory and practice. Gaps in individual teachers' expertise become apparent when they confront teaching contexts beyond their personal constructs, experience and current repertoire of teaching practices.

Following data analysis and interpretation in previous chapters, data patterns are explored through this chapter. Three generalizations are made from the co-construction of language development practices with teachers, for students at educational risk in early childhood classrooms. They are:

1. Co-construction effects transitions in teacher thinking and pedagogy in early childhood classrooms, in whole class, small group or individual learning-teaching contexts. Since learning and teaching are interactive processes, the co-construction of teachers' learning enhances their understanding of their teaching and students' learning.
2. Co-construction builds expertise. Co-construction processes include the sharing of personal constructs and the building of new learning-teaching experiences, practices, theories and beliefs.
3. Co-construction may encourage a culture of learning in schools as processes inform future pedagogy, learning outcomes and school change.

This final generalization acknowledges the potential for co-constructing change beyond this project. As co-construction effects transitions in thought and practice for individual teachers, it also enhances teachers' understandings of self. Through sharing and developing constructs and practices, "teachers will change schools by understanding themselves" (Diamond, 1991, p. 120). Teachers who engage in intentional and continuous interactive learning contribute to changes in pedagogy, learning outcomes and school policy.

From data patterns to generalizations

Personal experiences, theories, beliefs and training shaped participants' language development planning in early childhood classrooms. Early in the research year, participants reflected on their personal theories and pedagogy in response to students at educational risk. To complete this study the teachers and I co-constructed content and processes for classroom language development practices. Together, we reflected on nuances, consistencies and inconsistencies within these experiences of co-construction. My task (open to all participants) was to understand essential features and influential factors in effective co-construction. Participants formed opinions and

theories about the potential of co-constructed language development practices in other educational contexts.

One outcome of understanding and experiencing co-construction was that participants predicted the extent of their future use of effective co-construction. They considered possible contexts of use beyond this study. For example, Penny, predicted her use of co-constructed listening and phonological awareness strategies in her next school with younger students (CBRD11/12/00). Participants' understandings of what they could "take away" from their co-constructed experience provided evidence-informed links to the potential of co-construction in other primary classrooms. Wellington (2000) argues for the term "evidence-informed", rather than "evidence-based" to highlight his belief that educational and medical research informs rather than determines policy practice (p. 169) in non-research contexts.

In this chapter, the text focus shifts. Rather than weaving teachers' data with available theory to a structured narrative detailing nuances of co-construction in one school, I focus on the potential of co-construction for building teacher expertise and contributing to school change, in other primary schools. The processes for making generalizations are discussed by Stake (1995). As in this chapter, Stake (1995) moves from "looking for the detail of interaction within its contexts" (p. xi) to using data and interpretation to form generalizations or assertions. He recommends a focus to interpretation, organization and validation of "naturalistic generalization" (p. xiii) based on the selection of data "to maximize what we can learn" (p. 4). Here, I sought to understand the importance of apparent differences between co-constructive content, process and outcomes when working with early childhood teachers.

The template for co-construction serves as a benchmark for understanding when, why and how the co-construction processes require modification. Learning about co-construction was maximized as I interpreted and reported diverse particularities in the stories of Jacqui, Penny, Toni, Maree and (to a lesser extent) Coral. Such learning is unlikely to have resulted from my establishing of uniformity in the co-constructive experiences of all ten teacher participants.

Generalizations are validated by stories from the four teachers who most contributed to my learning: Jacqui, Penny, Toni and Maree. Within this action research, involving one school context but ten teacher participants, these four teachers emphasized the uniqueness of co-constructive experiences. Bassey (1999) and Wellington (2000) discuss the benefits of multiple participants in one context for qualitative educational research. Using Stake's (1995) terminology for the current research, Penny and Jacqui provided "positive" examples of the development of co-construction. Penny accepted and actively contributed to an interactive and reciprocal learning experience. Jacqui was a learner-centered teacher who responded to co-constructive opportunities. Her story "added confidence" to the emerging pattern that co-constructed learning enhances teaching outcomes.

Interactions with Toni contributed to my understanding of ways to facilitate co-construction. I needed to "modify" the process of co-construction to accommodate Toni's preference for information-based learning while developing opportunities for reciprocal learning interactions as characteristic of co-construction. Working with Toni initially challenged the developing generalization that "co-constructed learning enhances teaching outcomes." The fourth teacher featured is Maree whose story contributes a "counter-example" of co-construction, highlighting the need for review and repair. The experience of co-constructing language development plans with Maree did not follow the pattern of positive outcomes from co-construction until much later in our relationship. The experience of working with Maree confirmed that co-construction could break down. More importantly, learning interactions with Maree taught ways to repair co-constructive processes.

If the stories of Toni or Maree had been excluded as atypical of co-constructed learning, opportunities to interpret participants' learning would have been reduced. Instead, these stories of modification and counter-example enhanced my understanding of how alternative processes facilitated interactive learning. The need to review the co-constructive template after further analysis of Maree's data, added to my understanding of essential features and influential factors in effective co-construction. The theme that "co-constructed learning enhances teaching outcomes" emerged from the co-construction of transitions in thought and pedagogy for *all* teacher participants. As the parameters of effective co-construction were identified,

developed, repaired or repeated I was able to generalize about the potential for effecting change via co-construction.

Participation in teacher stories facilitated my learning about co-construction. Stake (1995) refers to the benefits of experiential understanding for qualitative researchers. Wilhelm (2001) discusses the social construction of learning. Here, the shared experience, social learning processes and the development of co-construction with participant teachers, enhanced my interpretation of our strengths, needs and preferences. Our reciprocal learning about classroom language development planning ensured that the content and processes used were appropriate and acceptable to all. Co-construction is a way to validate understandings as they are developed, used or modified.

The three generalizations stated in the introduction to this chapter are developed from teacher and classroom data, as well as, teacher and researcher interpretations. They are defined and defended in view of current thinking on generalizations from qualitative research method. Stake's (1995) argues that particularization rather than generalization is important since the analysis of difference implies knowledge and understanding of similarities amongst other data. Stake (1995) clarifies his belief that "valid modification of generalization" (p. 8) can be achieved through procedures such as triangulation (as used in this study).

Stake (1995) compares quantitative and qualitative procedures for drawing generalizations from data. He recognizes the place for comparative and correlational techniques for this purpose and emphasizes interpretation in qualitative research. Stake discusses the researcher's task as thorough understanding of the context and issues in which s/he is immersed. Here, the systematic pursuit of understanding included the refinement of research questions, the consideration and filtering of issues, and the continuous validation of researcher interpretation with other participants.

My on-going task of interpretation and re-interpretation of cumulative data in action research spirals is described by Stake (1995) as "progressive focusing." Stake took this term from Parlett and Hamilton (1976) to emphasize qualitative researchers'

need to continuously refine their thinking, note patterns in research data and seek greater understandings by examining, rather than discarding, discrepancies in patterns. In this study analysis of Term One data in Chapter 4, Terms Two and Three data in Chapter 5, and Term Four data in Chapter 6, demonstrates the continuous refinement of data interpretations towards the generalizations discussed here.

The practice of progressive focusing in this study is also evident when I reflect on changes in study focus through subsequent research cycles. Initially, attention was drawn to the OWLD as a way to guide language development practices used in early childhood classrooms. The interpretation of teachers' need to enhance their understandings and repertoire of practices for students at educational risk prompted a change from the content of language development plans to processes for supporting language planning. In the second and third action research cycles participants' input and responses to co-planning shaped and improved the processes of effective co-construction.

During Term Three, focus on the co-planning of classroom language development practice was sustained by repeated opportunities to learn more about both the content and processes of co-construction. My attempts to interpret factors contributing to positive outcomes for teachers, children, parents and school administrators progressively focused attention to the templates for co-construction. By Term Three of the school year, I had a working knowledge of the co-construction of language development plans with early childhood teachers. Participants began to report their application of co-constructed thinking and pedagogy beyond our classroom tasks for students at risk. In the fourth action research cycle, generalizations about co-construction were formed and validated in several ways.

The necessity to "maintain vigorous interpretation" (Stake, 1995, p. 9) was indicated by participants' spontaneous generalization of research outcomes. In the latter stages of data collection generalizations were emerging as possible conclusions, assertions, fuzzy propositions or fuzzy generalizations (Bassey, 1999). Data interpretations and participant reflections supported "petite generalizations" and hinted at "grand generalizations" (Stake, 1995, p.7). At this time, Stake's cautious summary of the research literature was important, "we do not have adequate guidelines for

transforming observations into assertions- yet people regularly do it" (p. 9). I was mindful that the completion of data collection and working interpretations did not guarantee adequate researcher understandings for generalization.

Late in Term Three, eight of the ten teachers supported the developing generalization that "co-constructed learning enhances teaching." (I was still unsure about outcomes for Toni and pessimistic about outcomes with Maree.) Yet I did not have a strong basis for claim about *how* co-construction shaped teacher thought and pedagogy. The process of again refining research questions redirected my interpretations during Term Four. The qualitative emphasis on nuances, the importance of context and the individuality of each participant (Stake, 1995) directed me back to data and source. Progressive focusing was incomplete without persistent adherence to three points of qualitative inquiry:

(a) Revisit the data,
(b) verify interpretations, and
(a) understand exceptions to clarify patterns.

Revisiting data and teacher reflections increased my understanding about which influences within co-construction shaped teachers' thoughts and pedagogy, and why. I revisited stories with Toni and Maree to clarify how and why their experiences of co-construction were different from those of Jacqui, Penny and other teachers who embraced co-construction.

Maree and I had not established a functional shared construct of early childhood language development. Instead we had worked from assumed understandings about one another and our intended outcomes for Semester Two. Toni and I had tried a number of ways of working together in the classroom until we developed a functional blend of information-centered and interactive teaching. It took time to find effective processes for our co-construction. Revisiting and reinterpreting data while asking how and why the experiences of co-construction with Toni and Maree differed from co-construction with the eight other teachers, enhanced my understanding of these atypical cases.

Returning to teacher data to verify interpretations was a way to interrogate prior observations and reflect on previous interpretations. Stake (1995) recommends investigating mismatches between research participants to promote understanding of research generalizations. In this study, revisiting mismatches between participants' expectations, preferences and personal constructs (as in Chapter 6) helped to explain difficulties with co-construction. Verbal and written reviews of the co-constructed project by Toni and Maree redressed my researcher interpretations. After misinterpreting earlier experiences with Toni and Maree as mutually unsatisfactory, revisiting their interpretations with them in Term Four clarified their support for co-constructed language development practice. Despite our need to modify the content and processes of co-construction, Toni and Maree verified the potential of co-construction in their current contexts and those they predicted for the future. They added to the positive reviews of the co-constructive experience by all other teachers, supporting the generalization that "co-constructed learning enhances teaching."

Although my experiential understanding developed with each of the ten participant teachers, it was the particularities of my interaction with each teacher that delineated effective and ineffective co-construction. Modification of the co-construction template, as an outcome of better understanding Maree's data, reiterated that co-construction requires intentional, continuous effort and real versus assumed understanding of participants' personal constructs and preferred learning processes. At the end of the project year, every participant acknowledged incremental growth in their thinking and classroom practice as an outcome of acceptable and effective co-construction processes. Participants interpreted the potential of co-constructed planning for their learning, classrooms and students. Each explained how co-constructed learning applied to their future teaching and learning.

The challenge of qualitative generalization

Processes to maximize learning through qualitative inquiry are also opportunities to reflect on the challenges and benefits of qualitative inquiry. Here, research design was intended to scaffold understandings about co-construction as a means of effecting change in teacher thought and pedagogy. Stake (1995) cautions that nuances within individuals' data and issues arising can redirect qualitative

researchers away from key issues to report insignificant exceptions to trends. One challenge for qualitative researchers is to discern those exceptions and data irregularities that enhance rather than confuse learning.

In the current study, final generalizations were strengthened by action research opportunities to continuously interpret, select and build teacher stories about influential factors shaping the processes and outcomes of co-construction. The focus was not on collective experiences, but on our reciprocal learning from those experiences. Hence, transition from data to generalizations necessitated selecting and using research opportunities reliably. Progressive refocusing to select data, review research questions, develop the narrative, identify patterns, and explain assertions with typical and exceptional cases preceded the forming of defensible generalizations. Recognition of the multiple possibilities from qualitative data further clarified the need to select data, and analytical and interpretive processes, to maximize learning.

The possibility of poor researcher selection of focus issues from qualitative inquiry also impacts on the transformation of data to defensible generalizations. This is particularly likely when etic issues (brought in by the researcher) conflict with those emerging as emic issues (real for other participants). In this study, participants were encouraged to provide written and verbal feedback through each school term. This was a way of checking intended project emphases as interpreted by all participants. Similarly the matching of researcher and teacher reflections by revisiting data in Term Four was a way to verify or refocus participants' interpretations as necessary.

Stake (1995) notes that the collection of data from individuals and analyses of context in qualitative research, "are infinitely complex" (p. 33). In the present study, final generalizations were progressively built from raw data, individual teacher stories, exploration of themes and issues when understanding individuals' experiences, interpretation of patterns, verification of emerging patterns, further learning from exceptional data and participants' interpretations of the potential for co-construction in other educational contexts. Generalizations developed with research participants attended to how co-construction related to their personal contexts. Term Four interpretations focused on how participants generalized their co-

constructed experiences beyond the project boundaries of year 2000 early childhood classes.

During the project, the co-construction template developed as a scaffold for interactive processes. Participants' personal beliefs, theories, previous practices and experiences were recognized as part of this scaffold, the basis from which further content could be negotiated. Most importantly, new understandings of each teacher's personal constructs and connections to pedagogy functioned like additions to the basic scaffold. With this framework, learning and teaching were enhanced and general outcomes identified. Understandings about *how* co-construction effects transitions in teacher thinking and pedagogy, define the contribution of this study.

Co-construction is most effective when it begins with respect for participants' current constructs and pedagogy and is built in familiar, meaningful contexts. Here, study participants contributed to the planned development and refinement of classroom language development practices. They did not agree, *a priori*, to particular changes in teacher thinking and practice, or that co-construction would provide the means to change. Teachers' research commitment was to planning language development practices for early childhood classrooms rather than to the implications of co-construction for future classroom planning. Prior to this study participants could not know which processes would evolve during the school year. The study became a qualitative inquiry of influences within the co-constructive process. As Wellington (2000) points out, research such as this, "cannot determine what ought to be" for all teachers in all schools but it does show "what *can* be achieved" (p. 177).

Study participants accepted opportunities to contribute to, and use, co-constructed classroom practices. All participants chose how to define their personal constructs, select classroom practices and contribute to this study. At the completion of data collection participants remained free to choose personal constructs and classroom practices for future use. All chose to generalize project learning in some way. Their generalization of thought and practice manifested as the confident application of new-found expertise beyond project activities.

The "thick description" and "multiple realities" (Stake, 2000, p. 43) included in earlier chapters, contribute to generalizations about co-construction because researcher generalizations concur with teacher generalizations. Opportunities to participate in the classrooms being studied and intentional interaction with ten teachers added insight into co-construction from the researcher-as-learner point of view. The inclusion of teacher-researcher interactions, teacher reflections shared with the researcher incidentally, teacher reflections from the Staff Review Workshop (SR4/9/00), Staff Evaluations (E21/11/00) and my independent interpretations, show respect for truth and respect for persons, as recommended by Bassey (1999).

Bassey's (1999) concept of truthfulness is used in this study "as an alternative to reliability and validity" for qualitative educational research (p. 74). This concept addresses the inaccuracy of assuming cause and effect relations in such research. In accord with Bassey's (1999) discussion, establishing internal validity for this study would confirm co-construction as the cause of change in teacher thinking and practice. External validity would confirm that co-construction can be generalized to other contexts. The necessity to establish internal or external validity is replaced by the need to establish trustworthiness throughout the research process. Co-construction is examined as a process that can effect change in teacher thinking and pedagogy, rather than a process that ought to be used in each context of intended change (Wellington, 2000). Generalizations from this study indicate the potential of co-construction in primary classrooms. Furthermore, generalizations encourage the use of co-construction processes in other educational contexts to determine the extent to which co-constructed learning might enhance teaching there.

The teacher stories analysed in this study, clarified by teacher participants and myself, showed how changes in teacher thinking and pedagogy were tracked over one school year. Hence the first generalization, "Co-construction effects transitions in teacher thinking and pedagogy." Teacher stories also included examples of teachers sharing thoughts and classroom practices and applying their co-constructions to other students, peers and classrooms. The second generalization, "Co-construction builds expertise" acknowledges the value of interactive learning for adult participants. The third generalization, "Co-construction may encourage a culture of learning in schools" is borne out by teacher reflections, improved learning

outcomes for students, and links to teachers' planning for the next teaching year. (This study reports teacher outcomes as the phenomenon of interest. Original data support claims about enhanced student learning outcomes, detailed in the OWLD1-4, teacher and researcher records. See Appendixes G-J.)

This study argues the potential of co-construction in alternative educational contexts, but gives no guarantee of comparable outcomes. An understanding of factors influencing effective co-construction allows others to hypothesize about the potential for co-construction, in their educational contexts. Advocates of co-construction can use this study to recommend transition to interactive learning (about personal constructs and current pedagogy) and the use of teacher voice to scaffold further learning.

However, Mann (2002) cautions qualitative researchers to consider the dissemination of research findings in appropriate ways to sceptical and supportive audiences. She identifies several factors that can jeopardize audience interpretations and acceptance of qualitative generalizations. One factor is the necessary length of the text that is required to adequately draw findings "from a net of interconnecting factors, some of which are very subtle and only surface in what some people see as textual ramble" (p. 73). Mann discusses the various ways in which qualitative generalizations can be disseminated to "allow the immediacy of the data" to counter claims that qualitative research is "irrelevant to the wider community because its studies are small-scale and non-generalizable" (p. 77). Mann (2002) follows the recommendation of Siedman (1991, p. 14) that the value of qualitative generalizations are more likely to be recognized if the researcher also provides, "compelling enough detail and in sufficient depth that those who read the study can connect to that experience, learn how it is constituted, and deepen their understanding of the issues it reflects" (p. 71).

As I discuss each generalization developed from the teacher data, analyses and interpretations in this action research, I expect that readers will recognize the importance of anecdotes from early childhood classrooms. Some readers will identify similarities between their experiences, "regardless of differences in context and personnel" (Mann, 2002, p. 77) and those of teacher participants. If so, these readers will connect to, and critique the research generalizations with their own worldview.

Co-construction effects transitions in teacher thinking and pedagogy

This first generalization extends the application of co-construction from early childhood teachers and students at educational risk, to primary teachers and whole classes of students. This application of the co-constructive process became evident within this study. Although initially intended to support language planning for teachers of students at educational risk in early childhood classrooms, teachers requested, input to, and accepted co-constructed language development plans for other children and whole classes (CBRD26/6/00).

Teachers noted when plans co-constructed for students at risk applied to those without identified risk. For example, Penny and Suze, (both Year One teachers) saw that co-constructed planning could be refocused from individual students and small group planning to whole class planning (CBRD22/6/00; CBRD26/6/00). In this way, teachers applied the process of sharing theory and practice about teaching and learning to classroom contexts, as well as, to individual students' needs. They regarded co-construction as a process of intentional and continuous building of their own expertise. They recognized transitions in their thinking and practice about language teaching and language learning. Penny and Suze demonstrated how teachers' increments in expertise were not limited to planning for students at educational risk.

Co-construction builds expertise

The second generalization concerns outcomes of co-constructive language planning. The intended outcome of this study was to facilitate transitions in teachers' thinking and practice for students at educational risk. Actual outcomes included transitions in teacher and researcher thinking about whole class language planning, intent to use co-constructed language practices beyond the project boundaries, and awareness of ways to influence professional development via co-construction processes.

Expertise was co-constructed via interactive learning and the experiential understanding of effective planning method. Interactive learning occurred when the teachers and I shared our personal philosophies and practical expertise. We learnt

that mismatches between personal constructs of early childhood language development and contrastive expectations of learning style impeded the progression of co-constructive language planning. The consequence of such learning was that we found ways to repair and modify the process of co-construction to facilitate increments in thinking and pedagogy. All participants reported increments in expertise, albeit unique to their personal constructs and classroom contexts.

This generalization was shaped from co-constructive language planning with ten teachers. This number was sufficient to recognize a broad acceptance of co-constructive planning as a way to build expertise. However the significant modifications to the content and processes of co-construction with two of the ten teachers added justification to the generalization, "co-construction builds expertise". This claim was more fully understood through experiences that initially challenged this pattern. Only after the stories of Toni and Maree had been reinterpreted with these teachers could this generalization be justified.

The pattern of reciprocal or interactive learning emerged from the co-construction of language plans by two or more participants for each early childhood classroom. The recognition of each participant's expertise was fundamental to the building of shared expertise. Teachers considered specialist language expertise as necessary to identify and plan for students at risk within their familiar and unique classroom contexts. Teachers welcomed opportunities to develop their own expertise if professional support was given in ways acceptable and appropriate to each of them. The strengths and needs of individual participants were considered as part of each unique classroom co-construction. Therefore, the sharing of theory and classroom practice enabled new expertise to be selected and built in ways that were appropriate and acceptable to all classroom users. Participants agreed that sharing theory and useful practice, as well as, interacting with teaching peers, contributed to the building of expertise.

Co-construction may encourage a culture of learning

The third generalization promotes teachers' experiential understanding of learning as a way to inform their teaching. Experiential learning emphasizes the benefits of

being immersed in particular learning contexts as compared to learning that is information-based or decontextualized. Wilhelm's (2001) model of Vygotskian learning points to the importance of socially constructed learning and metacognitive processes. Both are used in co-construction. They show how the experience of being a learner encourages teachers to reflect on the teaching and learning experiences they provide for others. Co-construction uses accepted learning principles from teacher-student interaction to facilitate a culture of learning amongst adults.

Current educational theory promotes strategies to develop autonomy, belongingness and competence in child learners (Raison, 2001). Using a literacy learning example, teachers are encouraged to create opportunities for students to be engaged in success since "engaged readers are motivated to make choices about what they read, how they read and what they take from reading" (Raison, 2002, p.1). If this thinking is extrapolated from learning-to-read contexts to learning-to-teach-reading, a generalization can be tried out. "Research indicates that intrinsic motivation is essential to… engagement and engagement in learning… involves having a clear purpose, taking responsibility for learning and seeing oneself as a potential (learner)" (ibid). Co-construction processes encourage teachers to make choices about what they teach, how they teach and what they take from one teaching experience to another. Working co-constructively allows teachers to engage in the exchange and building of expertise as they co-construct theory and practice for their personal teaching contexts. This connection to working contexts is intrinsically motivating. Participants define their purpose, take responsibility for their role in interactive learning and are confirmed by other participants' belief in their potential to learn.

Co-constructive thinking is a powerful interpretation of educational theory. Teachers' interaction with students to facilitate engagement in purposeful learning is established educational practice. The focus here is the translation of principles of learning and teaching from teacher-student interactions to consolidate theory and practices for teachers as learners. For example, Raison (2001) recommends the joint construction of co-operative reading activities with disengaged students in the middle primary years as a way to enhance their thinking and reading practices. Current literature focuses on the co-construction of thought and practice by teachers and students (Wilhelm, Daube & Baker, 2001). The present study focuses on the co-

construction of thought and pedagogy by teacher-researcher pairs. Teachers who subsequently co-constructed classroom theory and practice with their peers show increased engagement in their professional practice via their school community of learners.

Another example of how co-constructed learning enhances teaching comes from Nichols and Read (2002). These authors call for teachers to understand the "negotiation of knowledge" (p. 49) when communicating to parents about students at educational risk. They discuss cases in which teachers are challenged to "negotiate meanings between participants" using continuous acts of "representation and interpretation" (p. 52). As in the current study, Nichols and Read acknowledge how an improved understanding of influential factors, informs the co-construction of changes. The Nichols and Read study demonstrates "the importance of participants' active knowledge construction and negotiation" (p. 50) to improve home-school communication, as part of teaching. In the current study, co-construction is developed as a habitual way to negotiate and build knowledge about teaching and learning. Co-constructed learning applies to researchers, teachers, students, parents and any combination of these learners.

Diamond (1991) also describes how learning equips teachers to teach. As in this study, his work is grounded in personal construct psychology and talks about teachers' learning in terms of transformations. Diamond asserts, "Learning is what makes a teacher a person" since learning is "not just discovery and invention but also negotiation and sharing" (p. 14). In this study, teachers showed how co-constructed learning was extended to other students, to whole class planning, to discourse with teaching peers and to debates about educational policy and practice. (Examples are discussed in Chapters 4 through 6. One example, from Chapter 5, refers to how Jacqui initiated discussion about the impact of outcomes focused thinking on year placement for students with her peers, myself and the School Principal.)

Diamond's (1991) belief that learning by transaction and transformation enhances teachers' levels of development is akin to the third generalization here. "Co-construction may encourage a culture of learning in schools as processes inform future pedagogy, learning outcomes and school change." During the school year,

some participant teachers (such as Jacqui and Penny) were engaged in changing the culture of learning in their school. They showed what can happen in classrooms, homes and schools when knowledge is co-constructed.

Why co-construction?

The question, 'Why Co-construction?' rhetorically interrogates possible benefits of co-construction in contrast to consultancy or collaboration as processes for effecting change in teacher thought and pedagogy. This is an important question because consultancy and collaborative methods of supporting teacher change are encouraged in Western Australian Primary schools. Here, co-constructed learning is presented as an innovative alternative for supporting teachers through incremental change in thought and pedagogy. I argue that co-construction reflects contemporary principles of teaching, learning and assessment as documented in the *Curriculum Framework* (Curriculum Council, 1998) and the *Plan for Government Schools 2004-2007* (Department of Education and Training, 2003).

This personal preference for co-construction over consultancy or collaboration is a philosophical one. Consultancy method regards teachers as learners or recipients of new knowledge or abilities, recommended by more expert others. Theoretically, collaborative method values teachers as reciprocal learners. However, shared ownership in collaboration is threatened when the collaborator assumes a visiting or resident expert role. Collaboration encourages information exchange related to adjacent topics. Constructs on the same topic are not necessarily shared and built. In contrast co-construction relies on all participants as contributors to new knowledge. Teachers' expertise confirms their strengths and needs, the particularities of their classrooms and the opportunity for visiting or school specialist teachers to be involved in their classrooms.

In the Language Development Project both theoretical and practical exchanges were important components of co-construction. Parameters of co-construction were intentionally and continuously developed with participant teachers. Prior beliefs, experiences and practices influenced the negotiation of new classroom practices as participants' voice linked previous thought and pedagogy to co-constructed plans.

Every participant clearly influenced the particularities of co-constructed language development practices. Theory and practice were accepted and used when judged to be acceptable and appropriate for particular classroom contexts. When theory or practices were proposed but regarded as inappropriate by co-constructive partners, they were re-negotiated. Such intentional and continuous co-construction is recommended for classrooms in the future.

Templates for co-construction (given in Chapter 5) suggest how to begin this reciprocal learning. The general template for co-construction and one specific to language development plans for students at educational risk, provide recommendations for the intentional and continuous interaction that defines co-construction. In Chapter 6, re-interpretation of teacher stories and teacher reflections showed how, when and why the templates could be adjusted. Adjustments to process or content matched the needs of individual participants (teachers or the researcher).

Retrospectively, the co-construction templates provide a guide rather than a procedures manual of essential steps in defined order. The necessity for participants to choose and review both content and process for co-construction strengthens the system. The malleability of the co-construction process is one of its strengths. Co-construction processes eventually accommodated the needs of ten teachers, all with positive learning-teaching outcomes.

The advantages of co-construction are summarized in generalizations developed from this study as discussed above:

(a) Co-construction effects transitions in teacher thinking and pedagogy,

(b) co-construction builds expertise, and

(c) co-construction may encourage a culture of learning in schools.

The hypothetical contrast of co-construction with alternative teacher support models further justifies co-construction as a way to effect change in teacher thinking and pedagogy. Alternative ways to support teacher change are considered against the minimal requirements for effective co-construction in primary classrooms. This exercise recognizes the reality that minimal conditions are not available in every primary classroom.

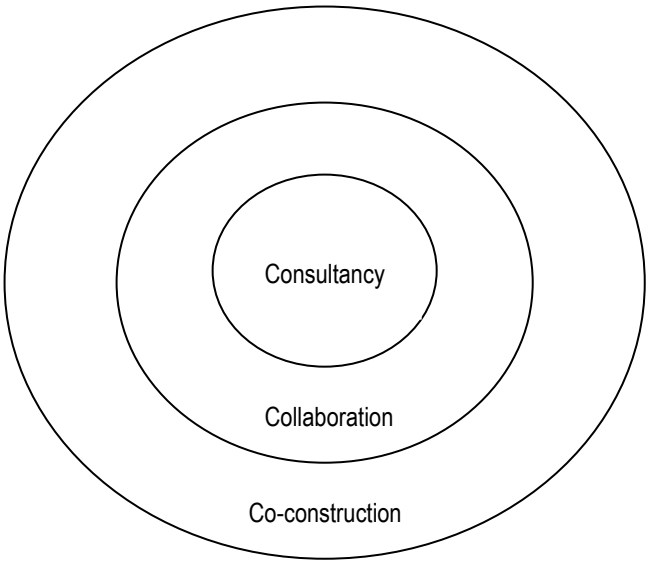
Recommended minimal conditions for effective co-construction are summarized as:

(a) The building of working relationships between voluntary participants,
(b) sharing of personal constructs,
(c) planning and implementation of practical tasks,
(d) recognition of "the central importance of context" (Flyvberg, 2001) to teachers' decision-making,
(e) regular opportunities to plan, act, observe and reflect (Wadsworth, 1997) on co-constructed teaching, and
(f) respect for participants as interactive learners and teachers with unique expertise.

Understanding minimal conditions for co-constructing change illustrates the advantages of co-constructed language planning over alternative language development practices. Reflection on generalizations about co-construction in other educational contexts highlighted elements common to co-construction and other ways of building teacher expertise. The theoretical relationship between consultancy, collaboration and co-construction as ways of supporting change in teacher thought and practice, is represented graphically in Figure 1.

Figure 1

Representation of the relationship between consultancy, collaboration and co-construction



Another comparison can be made between co-construction and shared teaching arrangements. Practices such as team-teaching (or co-teaching) and tandem-teaching, are opportunities for sharing thought and pedagogy. Team-teaching implies that teachers plan and teach particular lessons together, usually combining their classes to do so. Tandem-teaching implies that two teachers share the teaching of one class, usually in a job-share arrangement. In the latter case, teachers may plan but not teach together. Both team-teaching and tandem-teaching enable peers to assist one another. They can also provide for the sharing of specialist expertise within teaching pairs. Team-teaching and tandem-teaching rely on interactions between participants. The outcomes of such teaching arrangements are linked to the quality of the functional relationship between staff members, as well as, to opportunities to plan, act, observe or reflect on learning and teaching.

Although possible, the action research sequence is not essential to the establishment of peer teaching arrangements. Similarly the sharing of personal constructs, co-planning, the implementation of practical tasks and respect for participants as interactive learners and teachers with unique expertise, is possible but not typical in team-teaching or tandem-teaching. By contrast, action research cycles are built into co-constructed planning.

The next comparison considers whether teachers' participation in research projects can be comparable to co-constructed planning. Teachers are encouraged to research independently, or in collaboration with visiting researchers, as a way to enhance pedagogy (Altrichter, 1993; Kincheloe, 1991; Schratz, 1993). Tripp (1987) examined the "possibility and value of a more symbiotic relationship between classroom teachers and teacher educators through a form of collaborative research" (p. 179). He attended to issues such as teacher participation in research questions, control of the research project and opportunities for teachers to choose aspects of research from their current practice and classroom contexts. Tripp concluded that teacher-researcher relations could improve if future collaborative relations included teacher reflections on their own practice and improved researcher understanding of "the culture, site and person-specific nature of classrooms in particular and schooling in general" (p. 190). Conditions recommended for co-constructed learning were not common in the teacher-researcher dyads examined by Tripp in the 1980s.

Tripp (1993) focused on shared commitment, topics of mutual concern, shared control, outcomes of equal value and fairness amongst teacher and researcher partners. He discusses co-operative and collaborative phases in teacher-researcher partnerships. Tripp uses examples of particular decisions to be made and the issue of responsibility for research outcomes to suggest that teachers and researchers have "equally important but different roles to play" in classroom-based research (p. 150).

Tripp's (1993) critical incident approach to research in education requires teachers to document and analyse real incidents of dysfunction or unintended outcomes of teaching, in order to understand contributing and influential factors and reduce the chance of reoccurrence of the problem. His commitment to making research "deeply contextualised in the culture of classrooms and the actions and values of teachers" so that outcomes are "immediate and real for teachers" (p. 152) was also a principle in this research. Like Tripp, I sought to explain teaching from teachers' points of view. In doing so, Tripp's work was encouraging and influential. Since the critical incident process is grounded in the "ordinary moments" of teaching and learning (Shafer, 2002), it has much in common with co-construction as a process of involving teachers in educational research. There are also subtle differences.

Unlike Tripp's teacher-researcher agreement, this project did not offer teachers equally shared control over the research process or insist that teachers shared my view of the necessity for this project. Teachers had at least equal input to the content and process of co-construction since I was interested in the ways that they would shape classroom language planning. Research variables such as the duration of the project, the amount of time the researcher was available, the selection of action research methodology and qualitative analyses, were not negotiated with teachers. Throughout the project, teachers retained a choice about their voluntary participation. Teachers' could control their participation, as well as, influencing the content and processes of co-construction. These options were intended to empower teachers to become active research participants rather than research subjects.

Once they had become involved, all of the teachers' participated for remainder of this research project. Teachers' commitment was interpreted as a link to their expectation of practical classroom support with language development planning for

students at educational risk, for the duration of this project. I interpreted teachers' continued participation in the Language Development Project as an active judgement that the research was appropriate and acceptable to them. Their perspective was valued from the outset. On the contrary, any obligation for teachers to be involved in qualitative research design or administration is likely to have discouraged their participation.

Constant communication of research design and administration processes created an opportunity for teachers to become involved in these aspects if they chose to do so. Tripp (1993) recommends teachers' equal control and shared commitment to the necessity of the research. However, in this current case, teachers' active participation was secured largely without necessity for them to be involved in "research" aspects of the project. Teachers' commitment emphasized the exchange and building of pedagogy directly relevant to their classroom priorities. They accepted opportunities this project offered, because they perceived connections to personal constructs and their classroom contexts.

Sentiments interpreted from the teachers in this study address their concerns about conflicts between educational research and teachers' practical priorities. Research involvement at this and other schools (Bochenek, 1989) suggests that many teachers regard research as theory without practical application. As expected, teachers are inclined to become involved in research if they perceive their practical needs will be met, but not if they anticipate that additional expectations and responsibilities will be imposed upon them. Social judgement theory explains this possibility in terms of participants' ego-involvement or "how important the issue is" to their self-identity (http://www.qas.wvu.edu/~sbb/comm221/chapters/judge.htm). In practical terms if research is regarded within one's latitude of acceptance or non-commitment, opportunity exists to persuade teachers to become involved. Conversely, if teachers reject research as unacceptable in their work context, there is little chance of securing their involvement (ibid).

Tripp (1993) recommends that teachers are collaborative partners in research and that the critical incident approach can encourage teacher-researcher partnerships. Eisner and Peshkin (1990), Le Compte, Millroy and Preissle (1992), Kincheloe (1991),

Schratz (1993), Wellington (2000) and others address numerous specific issues relating to teachers' participation in qualitative inquiry in education. This study adds co-construction as an opportunity for teachers to participate in classroom-based research and to make professional judgements about the benefits (or otherwise) of the content and processes of research participation.

Since co-construction is designed to match teachers' acknowledged needs for classroom support with appropriate thinking and pedagogy, teachers regard the co-construction process as a helpful adjunct to their classroom responsibility. Given that effective co-construction relies on input by both (or all) participants, classroom teachers can influence the research content and process to maximize their learning. Furthermore, the co-constructive classroom researcher can facilitate teachers' awareness of their research role. As discussed in earlier chapters, co-construction can make tacit learning explicit. The implication is that teachers are empowered to consider future co-construction as a useful and accessible form of classroom-based action research.

Unlike other practices of qualitative inquiry by educational researchers, co-construction provides the opportunity to build working relationships between voluntary participants (minimum condition 1) prior to the specification of research potential. As personal constructs are shared in the early stages of co-construction (minimum condition 2), research interests can be linked to teachers' ideas "that they already believe" (http://oak.cats.ohiou.edu/~dt225196/sj.htm). Teachers and researchers then co-construct thoughts and practice (minimum condition 3) within teachers' real decision-making contexts (minimal condition 4). They select regular opportunities to plan, act, observe and reflect (minimum condition 5) with respect for one another as interactive learners and teachers with unique expertise (minimum condition 6).

Co-construction is not specific to research. It is a way of integrating personal construct theory and social judgement theory, mindful of minimal conditions for interactive learning. Teachers can participate in classroom-based research to co-construct changes in thought and pedagogy, motivated by the opportunity for improved learning and teaching outcomes. This connection between research and

practice fits the "latitude of acceptance" (Orban, 1999; Runner, 1999; Curtis, 1999; http://www.as.wvu.edu/~sbb/comm221/chapters/judge.htm) held by many classroom practitioners. Co-construction is recommended as an acceptable and appropriate way to encourage classroom-based educational research because the researcher's knowledge of method accompanies the teacher's knowledge of their classroom. Each partner is advantaged by access to the other's specific expertise. In many cases neither the teacher nor researcher could achieve alone, that which they could co-construct.

Expertise

The question of expertise is critical to a balanced review of co-construction, particularly when compared to consultancy and collaborative approaches to change in teacher thinking and practice. I have discussed how a Vygotskian perspective provides a theoretical basis for reciprocal, interactive learning as in co-construction. This study emphasizes respect for all participants as interactive teachers and learners with unique expertise (minimum condition 5). Within this framework there are occasions when particular expertise is required and advantageous. The assessment of students' language learning status and the impact of language disability or disorder on educational attainment is one such example.

Teachers in this study and beyond it, frequently identify the need to understand precisely how students' unique language learning profiles manifest as literacy and general learning problems. Recently, (RD3/4/03) a teaching colleague discussed her need to understand why one seven year old student reads at a reduced level for her age and why she does not, or cannot, read her own written work. This teacher was also concerned about the student's lack of independence with classroom literacy tasks. This is one example of how classroom teachers recognize their need for specialist assessment of some, but not all students at educational risk.

Wilhelm, Baker and Dube (2001) remind us, "all knowledge is socially and culturally constructed" and "what and how the student learns depends on the opportunities" provided (p. 2). This also applies to classroom teachers as learners. Since most schools do not have staff with specialist language expertise, teachers'

understandings of students with language-based educational risk and associated classroom practice is constructed in a variety of ways. Many school staffs rely on visiting speech pathologists, educational psychologists or teachers undertaking specialist duties in language support roles, to assist teachers' development of language expertise. Throughout this study, teachers, teacher assistants, parents, school administrators and students had opportunities to access specialist language expertise. All teachers identified access to specialist language expertise as a positive feature of their research participation. They recognized the benefits of specialist training and experience and acknowledged opportunities to develop language expertise as part of this study.

Wilhelm et al. (2001) highlight the importance of quality opportunities for learning within a co-constructivist model. They use the terms coconstructivism and socioculturalism to explain that learning occurs through the "transformation of participation." These authors consider that "learning is not 'natural' but depends on interactions with more expert others" (p. 2). They clarify their view that "more capable others" are responsible if the student does not progress. It follows that language specialists are responsible for change (or lack of change) in teachers' understanding or pedagogy, specific to language-based educational risk. In this study, the researcher would be responsible for the extent of change in teacher thinking and pedagogy as an outcome of co-constructed language development.

My view is similar, but not identical to that held by Wilhelm et al. (2001). The amendment is that co-constructive language specialists can assume responsibility for the quality of language specialist input and language-learning opportunities offered to teacher participants. They can also be held responsible for applying personal construct theory and social judgement thinking so that teachers' opportunities for learning are maximized. However, co-construction in this study respects voluntary participation, the building of working relationships, sharing of personal constructs, planning and implementation of language development theory in classrooms, co-construction of pedagogy within action research, recognition of reciprocal learning, and participants' unique expertise. Wilhelm's (2001) model of coconstructivism assigns responsibility for learning to the more capable participant. The alternative proposed in this study is that participants share responsibility for learning outcomes

because they both contribute personal theory, classroom practice and specific expertise to the planned learning.

Other than this interpretation of responsibility for learning outcomes, the Wilhelm et al. (2001) coconstructivist model is applicable to adult co-learners, as well as, to teacher-child interactions. The recommendation that more capable others observe the learner, problem-solve his/her difficulty, match instruction to the learner, make informed decisions and support the learner to a point of readiness for enhanced understandings, can describe teacher-child interactions, teacher-researcher and teacher-teacher learning. The intent to use socially constructed learning to facilitate change from individuals' zones of actual development, through co-constructed zones of proximal development, to new zones of actual development; is common to both examples. In the current study, the template for co-construction and the minimal conditions for effective co-construction guide researchers and language specialists to facilitate change for teachers as learners. Theoretically, the same templates guide teachers to facilitate changes in the thinking and practices of language specialists moving from clinical to classroom contexts, or researchers moving into classroom contexts.

Wilhelm et al. (2001) is the only place I have found the term coconstructivism used to refer to processes of reciprocal learning-centered processes. Elsewhere "social constructivism" is the term used to refer to the benefits of social interaction to enhance learning. Both terms can be applied to teacher-pupil and adult-adult learning, as in this study. To the best of my knowledge the proposed templates for co-construction, to facilitate transitions in teacher thought and pedagogy, are unique to the current study.

Consultancy, collaboration or co-construction?

Teachers recognize a need for pedagogy outside their zone of actual development. They use collaborative and co-operative learning strategies within their classrooms and for peer interactions. In recent years literature on collaborative partnerships in schools has supported a move from consultancy service models (Bashir et al., 1998; DiMeo et al., 1998; Harris, 2002). Recent schools change literature is also bringing

focus to the need for building "a knowledge-sharing culture" (Todd, 2001, p. 1) and the importance of involving classroom teachers in planning change (Ainscow, 1998; Fullan, 1992, 1993, 1996; Hargreaves & Fullan, 1992, 1998) and developing research (Marzano, 2003; Tripp, 1993).

Within school systems, "consultancy" language development services recognize the expertise of visiting specialists and the comparative need for teachers to access or develop this expertise in order to plan classroom language development tasks for students at educational risk. Each of the minimal conditions for effecting change in teacher thinking and practice could be included in consultancy style language development services. However, none of these are pre-requisites to the establishment of consultancy services. Typically consultancy services are proposed as a time saving strategy for language specialists prioritising large numbers of clients. One consequence is that language consultants do not have the time to develop minimal conditions for interactive learning.

Typically, consultants give information about students at risk to classroom teachers and/or make recommendations for classroom practice. They do not build shared understandings or create experiences for shared observation, monitoring, assessment and explicit teaching. Consultancy support is characterized by information being selected and given, or requested and supplied. Language consultancy to teachers is designed and provided by the consultant without attention to teachers as interactive learners with their own unique expertise.

Currently speech pathologists, visiting teachers and speech-language co-ordinators provide a range of speech-language consultancy services to teachers. Consulting staff and teachers are often employed by different agencies whose policies and procedures may not be compatible. For example, guidelines for speech pathology services in schools were documented by Speech Pathology Australia (1996) to be revised in 2004. Oliver et al. (1999), for the Department of Education Western Australia, summarized issues related to the provision of speech-language development services to West Australian schools. Yet, the age of children eligible for services remains an issue. Primary schools in Western Australia enrol children from three to thirteen

years of age. Local Speech Pathology services limit eligibility to consultancy services to children up to school Year 2, or seven years of age (ibid).

Similarly, clinical models of specialist language development are designed and implemented with little or no input from the teachers of children being managed. Clinical speech-language services are typically offered to individuals and small groups of children and their parents. As for consultancy services, contacts between clinicians and teachers have the potential to include recommended minimal features of co-construction. In reality, clinical services are physically and philosophically separate from classroom-based language development. They do not include opportunities for teachers and clinicians to develop shared experiential understandings. Learning is not interactive.

As previously represented in Figure 1, effective collaboration and effective co-construction have much in common. Recommendations about the potential for co-construction are based on the positive outcomes of this project. All teachers had input to changes in their thinking and classroom language development practices. All teachers interacted from a position of expertise about their own beliefs, constructs, experiences and pedagogy. All teachers embraced the opportunity to use, engage with, consider and develop language expertise. All teachers had input to my learning, as well as, theirs. Possibly, but less likely, these outcomes would have arisen from an acceptance of collaborative partnerships. The term co-construction intentionally focuses participants' attention to the on-going process of working together to translate shared theory to effective practice.

An important difference between co-construction and collaboration is that the former is intended to move from combined expertise to new zones of actual development. In contrast, collaborative processes emphasize the putting together of expertise rather than the building of new and extended expertise. While it is possible that collaboration stimulates the formation of new expertise, realities are more "co-operative than collaborative" (Tripp, 1993, p. 149). Another way of comparing and contrasting these two processes of professional partnership is to focus on expected changes. Co-construction involves negotiation of change. The required intentional and progressive negotiation ensures that planned changes in thinking and practice are

specified. Furthermore, co-construction requires that minimal conditions for effecting change be pursued. Collaboration does not necessarily involve increments of change. Professional collaboration, as in tandem-teaching arrangements, can encourage the continuation, increase or decrease of current practices. New thought and practices are possible but not always the intended outcome.

Collaboration is recommended when the minimal conditions for co-construction cannot be met. For example, when time constraints or physical separation enables the sharing of thought and planning by teachers, but not the shared implementation of classroom strategies. In such cases collaboration can function as a precursor to later co-construction. In this study the processes and outcomes of collaboration served as forerunners to the development of co-constructive language development planning.

Co-construction developed and was modified with teachers when attempts to plan collaboratively exposed weaknesses in those processes. Co-construction encourages the interaction of thought and experience. Attention is given to both the content and processes of interactive language planning. Unlike collaboration, the minimal features of co-construction and templates for the process, guide the development, refinement and review of learning for all participants. Unless specified, professional collaboration can be limited to shared thought or practice; co-construction gives focus to both. Furthermore, co-construction involves the intentional seeking out and sharing of respective expertise. Recognition of individual expertise is not left to chance.

Co-construction is recommended as a process for effecting change in the dynamics of professional partnerships. Co-constructed learning accommodates exchanges of thought and practice by classroom teachers and language specialists. All participants can expect to be both teachers and learners in continuous co-construction. They can expect their unique expertise to be respected and used. This possibility contrasts with consultation or collaboration-based specialist language development services that cannot be assumed to feature interactive learning or the creation of new expertise. When expert service provision is acted out as the giving of information (because of assumed needs) or information provision in response to learner requests, reciprocal

expertise is not necessarily recognized or shared. By contrast, co-construction includes the *expectation* (rather than the possibility) of reciprocal learning.

Co-construction as presented in this study or as promoted by Wilhelm et al. (2001) is not currently applied in Western Australian primary schools. Teachers taking responsibility for building their specialist language expertise may access language specialists using clinical, consultancy or collaborative service delivery models. Clinical information, consultancy input and collaborative planning do not meet all the minimal conditions for effecting change as recommended for co-constructed learning. This discussion of comparisons and contrasts indicates the ways in which specialist clinical, consultancy and collaborative language support services fall short of effective co-construction of thought and pedagogy.

As in Figure 1, my current personal construct of the relative importance of co-construction, as an approach to teacher support, can be described hierarchically. Consultancy can be enhanced by collaborative practices and collaboration by co-construction. Although opportunity for effective co-construction is somewhat determined by particular educational contexts, my preference is to seek reciprocal learning interactions with peers whenever possible. Co-constructive experiences have shown how each language planning interaction is an opportunity for learning about peers, with peers, about co-construction and about co-teaching.

As a consequence of this study, I actively pursue the minimal conditions for co-constructive problem solving when working with classroom teachers. Without an understanding of the child's classroom tasks, the nature of the teaching and learning opportunities presented, and the skills, beliefs, experiences and practices of the classroom teacher; language specialists can comment on language features and implications for learning, but not on specific recommendations for children, teachers, parents or specialists in a given classroom context. This discussion justifies co-construction as more than a collaborative putting together of ideas. It is a practical representation of co-constructed expertise being more than the sum of individuals' expertise.

When co-constructed, classroom practices consider the constructs, practices, experiences and beliefs of classroom teachers and language specialists, student data and classroom contexts. In addition, co-constructed classroom practice includes the interpretation of influential factors in language development planning and the building of explicit pedagogy by participants in contexts they know and understand. Unlike consultancy and collaborative language planning, co-constructive partners acknowledge and use both the classroom teacher's expertise and that of the language specialist.

Co-construction beyond this study

Co-construction processes have potential to effect change in a variety of educational contexts. The first generalization, *co-construction effects transitions in teachers' thinking and pedagogy*, can be re-examined in future contexts of need. In the current study, transitions in theory and practice were specific to classroom language development and early childhood education. Teachers' expertise was constructed from their extensive prior experiences and a range of theories, beliefs and practices about early childhood language development. Although I intended to represent co-constructive partnerships between classroom teachers and language specialists in West Australian schools, I acknowledge the possible diversity of influential factors within and between primary schools. The teacher-researcher partnerships explored in this study will not be identical to teacher and researcher profiles at other schools. Hypothetically, other language specialists can input current language learning theory and pedagogy while expecting and respecting a range of personal constructs and practices amongst teaching colleagues.

The second generalization, *co-construction builds expertise,* focuses on the contribution of each participant when building new expertise. Participants are required to "create meaning and solve problems in a real context" (Wilhelm, Baker & Dube, 2001, p. 7). Having discussed consultancy as information without practice, and collaboration as the putting together, rather than the intentional and continuous building of expertise; co-construction needs to be demonstrated as the creation of new thought and practice with (rather than for) peers or expert others.

During this study, critical friends assumed similarities between co-construction and alternative ways of facilitating change in teacher thought and practice. This misrepresentation of co-construction as "a new word for collaboration" can blur the boundaries between consultancy, collaboration and co-construction unless subtle but influential differences are demonstrated. One example arose from presentation of this work in progress to a group of thirty teachers and speech pathologists working in schools (Bochenek, 2003). Opening questions and comments indicated that participants perceived co-construction (as I did during the evolution of the process) as a synonym for, or sub-type of collaboration. A different interpretation, in accord with Figure 1, was provided in question form, "Can one be a consultant who collaborates with teachers via the process of co-construction?" (B. Bennett, personal communication, October 11, 2004). These comments and questions provoke further thinking about co-construction beyond this study. At this stage, for the reasons debated in this chapter, I reiterate that co-construction has developed from, and is more interactive than collaborative teacher support services.

My recommendation is to examine the extent to which parameters of co-constructive experiences are shaped by prior beliefs, experiences, theories and practices of working partnerships. Indeed, borrowing the templates and minimal conditions for co-construction offered in this study may support new understandings about when, how and why interactive learning can be facilitated. As in this study, initially positive, functional relations supported and confirmed my developing beliefs about co-construction. Dysfunctional experiences enhanced my learning about co-construction and provoked refinement towards the study generalizations given here. Future users of co-construction theory and practice will benefit from experiences that both confirm and challenge their understandings of effective co-construction.

Finally, the third generalization claims *co-construction may encourage a culture of learning in schools.* Readers may recognize features of the co-constructive process in their prior learning experiences and value co-construction as a possible way of working that they can "connect with" (Mann, 2002). Re-examining interactive learning experiences can assist one to recognize opportunities for co-constructive theory and practice. The fundamental principle is that personal constructs direct

actions. Principles of social judgement theory can be used to predict and interpret responses to learning opportunities.

Those who have embraced co-construction opportunities as helpful, acceptable and appropriate for students at educational risk, are more likely to use co-construction theory and practice in the future. Teachers who have positive experiences of co-constructing classroom language development practices are more likely to work this way with others. Further changes to pedagogy, learning outcomes and school systems can be co-constructed within an accepting, interactive learning community.

These generalizations specify the theme that co-constructed learning enhances teaching. Teachers, as interactive learners, bring personal insights about learning to their teaching of others. Each teacher has a repertoire of expertise that connects to possibilities within the work place, intended practices and desired learning outcomes. Self-reflection encourages the identification of expertise that other's have and that we might develop. Co-construction processes empower participants to achieve more and different outcomes with others than they can alone.

In developing and using co-construction theory I learnt ways to participate in the exchange and building of teacher thought and pedagogy. Repeated patterns in teacher-researcher interactions, confirmed the importance of personal constructs, prior experiences, theories, beliefs and practices to future pedagogy. Co-constructive processes transformed current thought and practice to greater classroom language expertise and made changes explicit for participants. Research participants agreed that co-constructed classroom plans were greater than the sum of individual parts.

Summary

The co-construction of thought and classroom practice effects transitions in teacher thought and pedagogy, builds expertise and may encourage a culture of learning in schools. Co-construction is a way for teachers to address their own learning needs, as well as, those of their students, their teaching peers and visiting specialists.

The next and final chapter confirms connections between these study generalizations, research questions, multiple data and relevant theory. There I review the effectiveness of this constructivist interpretive approach to action research.