Learning and Teaching Stories:

New Approaches to Assessment and Evaluation

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During the past decade a number of countries have developed national curriculum statements and frameworks for schools and/or early childhood services. New Zealand is one of these. Two of the research team co-ordinated (on contract to the New Zealand Ministry of Education) the early development of *Te Whäriki: Early Childhood Curriculum* (1996). *Te Whäriki* translates from the Mäori language as "a mat for all to stand on," and is particularly apt in a country of diverse cultures and diverse early childhood services. As a curriculum document it contains overall Principles, Strands, and Goals for all early childhood programmes which in turn, "weave" or develop their own programme within the given framework. A fundamental principle of *Te Whäriki* is the empowerment of children. *Te Whäriki* has been well received by the early childhood community but it does pose challenges to centres.

In a climate of increasing concern with accountability and quality across the education sector, it has been important to reappraise the issues of assessment and evaluation in relation to early childhood care and education. The development of *Te Whäriki* has posed particular challenges towards ensuring that the processes for assessment and evaluation are in the interests of children and their families and fit alongside the Principles of *Te Whäriki* itself. The Ministry of Education contracted us to undertake research towards the development and trialling of some frameworks for assessment and evaluation.

This paper provides an overview of the principles and framework of *Te Whäriki*, and appraises its early implementation. There is an outline of two follow-on research projects: one on assessment and the second on evaluation. Our framework of "Learning and Teaching Stories," as a "user-friendly" approach to assessment and self evaluation, has been trialled in an action research project in centres.

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The New Zealand Early Childhood Curriculum

In 1996 the New Zealand Ministry of Education published a national early childhood curriculum for children aged 0-5 years for Aotearoa New Zealand, popularly known by its short title as *Te Whäriki*(The full title is: *Te Whäriki. He Whäriki Mätauranga mö ngä Mokopuna o Aotearoa: Early Childhood Curriculum*) (New Zealand Ministry of Education, 1996). Five strands shape the outcomes for children: belonging, wellbeing, exploration, communication and contribution. These strands are summarised in the beginning of the document as aspirations for lifelong learners: for children "to grow up as competent and confident learners and communicators, healthy in mind body and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society" (Ministry of Education, 1996, p.9). This socioculturally-oriented framework emerged from lengthy consultation by the co-Directors of the Curriculum

Development Project (Margaret Carr & Helen May) with early childhood practitioners, and a strong consultative partnership between the developers and Tamati Reedy and Tilly Reedy, the representatives of the Te Köhanga Reo trust (Carr & May, 1993). It is a bicultural framework, and the document is partly written in Maori. The curriculum document also summarises the learning outcomes for children in two ways (p.44): as *working theories* about the people places and things in learners' lives, and as *learning dispositions*. In other words, a key outcome of early childhood education is a working theory about being a learner, or a theory of education.

The challenge for practitioners has been to translate these ideas into local programmes. In the language of the national curriculum, this is a process of 'weaving' local patterns from national and local strands and threads. The curriculum has integrated a critical perspective with a situated model of learning through a weaving or '*whäriki*' metaphor (Carr and May, 1994). The word '*whäriki*' in Mäori means a woven floor mat. The curriculum states:

> The early childhood curriculum has been envisaged as a whäriki, or mat, woven from the principles, strands, and goals defined in this document. The Whärikiconcept recognises the diversity of early childhood education in New Zealand. Different programmes, philosophies, structures, and environments will contribute to the distinctive patterns of the whäriki.

The New Zealand early childhood curriculum framework became mandatory for funded early childhood programmes in April 1998.

This paper outlines follow-on Ministry-funded research projects: one on assessment and another on evaluation with a further action research phase on assessment and evaluation. Further detail on these projects can be found in Carr (1998a,b,c), Podmore and May (1998) and Carr, May, and Podmore, with Cubey, Hatherly, and Macartney (in press). (See Appendix, diagram 1).

The Assessment Project: Learning Stories

In a summary of a comprehensive literature review on formative assessment, Black and Wiliam (1998, pp.14-15) advocate approaches that focus on several essential elements and include the development of habits of life-long learning. They state:

> "the evidence we have presented here establishes that a clearly productive way to start implementing a classroom-focused policy [for raising standards] would be to improve formative assessment. This same evidence also establishes that to do this would not be to concentrate on some minor or idiosyncratic aspect of the whole business of teaching and learning.
>
> Rather it would be to concentrate on several essential elements, namely

- the quality of teacher-pupil interactions
- the stimulus and help for pupils to take active responsibility for their own learning
- the particular help needed to move pupils out of the 'low-attainment' trap, and
- the development thereby of the habits needed by all if they are to become capable of life-long learning."

This is the approach taken in the assessment project that followed from the first draft of the curriculum. In 1995 the Project for Assessing Children's Experiences, a research project with the Ministry of Education, was designed to identify some key outcomes from Te Whärikiand to work with practitioners to develop a range of assessment ideas and procedures that

would be useful for them when they work with young children. The focus age group for this project was three- and four-year-olds. The project also took the view that:

> Assessment is the tail that wags the curriculum dog. If we want to see real curriculum reform, we must simultaneously achieve reform of assessment practices. (Bredekamp & Rosegrant, 1992, p.29)

The assessment framework that emerged from this project was woven from the same strands as the early childhood curriculum for Aotearoa-New Zealand. The 1993 draft of *Te Whäriki* (Ministry of Education, 1993) documented the theoretical and research base for this new curriculum's sociocultural and ecological approach, reflected strongly in: (i) the curriculum strands of 'belonging/mana whenua' and 'contribution/mana tangata', (ii) a guiding principle that emphasises the idea that children learn through relationships, and (iii) a guiding principle that emphasises the role of family and community. It was a radical approach to early childhood curriculum, and has been a focus of interest for early childhood practitioners in many countries.

A different curriculum calls for a different approach to assessment. In particular, the Aotearoa New Zealand curriculum framework was based on four key principles:

   • the early childhood curriculum empowers the child to learn and grow - whakamana

   • the early childhood curriculum reflects the holistic way children learn and grow - kotahitanga

   • the wider world of family and community is an integral part of the early childhood curriculum - whänau tangata

   • children learn through responsive and reciprocal relationships with people places and things - ngä hononga

The assessment framework is based on the same set of four principles. This is not a school curriculum, based on subject knowledge and school-based skills. It is an early childhood curriculum, based on belonging, wellbeing, exploration, communication and contribution. The curriculum was written for infants, toddlers, and young children (three- to four-year-olds), and the assessment procedures are written to assist practitioners to fulfil their role as teachers of the curriculum.

The questions that this research project set out to answer were the following:

(i) in selected sites in a range of chartered early childhood settings (including kindergarten, playcentre, childcare, and home-based) what are the observable outcomes for children that professionals working with young children can link with the early childhood curriculum guidelines? and (ii) what assessment instruments can be applied in these sites across a range of settings (including kindergarten, playcentre, childcare and home-based) and age groups?

The Learning Story Framework

The framework of outcomes for assessment to emerge from this research study is described in the Project as a *Learning Story* framework. This Learning Story framework is a set of five broadly based behaviours, which within a particular topic or activity typically develop as a sequence. Practitioners in a range of early childhood settings developed a number of

observable criteria for each of these five behaviours. Consistent with the notion in *Te Whäriki* of curriculum as a whäriki woven with national strands and goals but with different patterns for each programme, so in this project each of the five case study programmes - a kindergarten, a child care centre, a playcentre, a home-based setting, and te köhanga reo - wove assessment together with curriculum implementation into different patterns from the same Learning Story framework.

The Learning Story framework for assessment describes the contribution that early childhood experience makes to life-long learning. Children leave early childhood settings for further education with some well-established learning stories: packages of inclination, knowledge, and skill to do with *being a learner*. The literature describes these inclinations and their associated knowledge and skill as dispositions about learning (Carr, 1999; Hickey, 1997; Katz, 1993; Perkins, Jay & Tishman, 1993). The project documents children acquiring robust dispositions to learn - to find an interest here, to be involved and attentive, to tackle and perservere with difficulty and uncertainty, to express their ideas, and to take some responsibility in joint and group endeavours. The project identifies these as five key learning dispositions, combined together to form Learning Stories, and describes the process whereby children construct their own learning environments in order to strengthen and confirm their dispositions. These learning dispositions occur in a context, and are associated with skills and knowledge - for instance, Molly was acquiring transformational knowledge and skill in technology as she persevered with difficult hat-making processes; Jason was learning to write and to follow a complex screen-printing sequence as he took responsibility in a joint screen-printing task. One of the main conclusions of the project was that if early childhood practitioners and teachers recognise and document this learning, they can more effectively direct its pathway.

Assessment procedures

The research in Phase Two of the Project – the five case studies – developed assessment procedures for the framework (Carr, 1998b). Each early childhood setting developed the framework in a different way. The research at this phase was flexible and procedures were revised and refined by the practitioners in their everyday practice. A clear finding was that decisions about *how* to assess (the procedures) followed from decisions about *what* to assess and about *why* assessment procedures might be developed. Ten good reasons for documenting children's learning in early childhood emerged from the research in five different settings. Each setting emphasised one or more of the following purposes: (i) to be in tune with individual children (ii) to use the documentation as a catalyst for discussion (iii) to share information with other staff (iv) to reflect on practice (v) to highlight the learning that is valued here (vi) to involve children in self-assessment (vii) to ensure that all children receive attention (viii) to plan for individuals and groups (ix) to discuss the programme with family and whanau, and (x) to share experiences with family and whanau. All ten purposes contribute, in different ways, to the umbrella purpose for formative assessment, which is to enhance children's learning. Examples of each of the ten purposes, and reflective comments from practitioners on them, are found in the case studies.

Phase Two also sets out a four-part assessment process: (i) describing, (ii) documenting, (iii) discussing, and (iv) deciding.

(i) 'Describing' occurred when the practitioners highlighted the learning to assess. In this Project this was the Learning Story categories of behaviour. The practitioners focused on learning episodes that described the emergence of one or more of the five categories or steps. Their aim was for these categories of behaviour to develop into well-established and robust learning dispositions. Describing and emphasising examples of positive behaviour

indicates to child and family the learning that is noted and valued, and enables the practitioners to plan for the further development of that learning.

(ii) 'Documenting' occurred in a range of different ways - and for a range of audiences (the child, the practitioner, the family, the outside agency).

(iii) 'Discussing' with the child, another practitioner, or the family, was in every setting an important part of the assessment process.

(iv) 'Deciding' was about planning what to do next, and especially in Case Study One there are examples of formal planning using the sequence of steps in the Learning Story framework. Although the Project focused on documented assessment - particularly written observations or collections of documents - it was also noted that adults in early childhood are informally and continually assessing: responding to children's initiatives and deciding what to say or do next. This is part of the teaching process. One calculation in the child care centre suggests that a practitioner could be making informal assessment decisions 936 times in a day. The Learning Story framework has also helped practitioners to reflect on these informal responses.

The Project for Assessing Children's Experiences is located at the intersection of three domains of literature and previous research: assessment, learning, and professional development. The introduction to the final report summarises these three bodies of knowledge and inquiry as they relate to early childhood and to this Project (Carr, 1998 a). Sometimes the research cited was carried out in an early childhood context, but relevant messages for early childhood educators have often been found in the literature written for and about other levels of schooling. The research links with and supports other early childhood research projects in Aotearoa-New Zealand, in particular the clusters of competencies in the NZCER Competent Children project (Wylie, Thompson & Hendicks, 1996; Wylie Thompson & Lythe, 1999), and Anne Smith's Quality of Child Care Centres for Infants in New Zealand (Smith, 1996) with its emphasis on the value for learning of joint attention episodes. The research confirms the contribution of quality early childhood curriculum and assessment practice to the provision of a firm foundation for children's learning.

Phase Three of the project developed some ideas and resources for professional development programmes on assessment in early childhood. Three videos, with accompanying readings and workshops were developed and published by NZCER in 1998 (Carr, 1998 c).

The Evaluation Project: Learning and Teaching Stories

The second Ministry funded research project was designed to develop a cohesive framework for evaluating the implementation of Te Whäriki. The research aimed to identify the key elements of programme quality in relation to the strands and goals of Te Whäriki (the curriculum), which should be the focus of evaluation practice. Phase 1 included focus group interviews with key informants, and phase 2 involved ethnographic studies of seven early childhood centres (kindergartens, childcare centres, and playcentres) (Podmore & May, with Mara, 1998).

A proposed framework, developed from the ethnographic studies, used the concept of "Learning and Teaching Stories" which are constructed or "woven" by each early childhood centre in the inclusive spirit of Te Whäriki. The "Learning and Teaching Stories" encourage centres over a period of time to reflect upon their programme (Podmore & May, with Mara, 1998).

Our framework of 'Learning and Teaching Stories,' as a 'user-friendly' approach to assessment and self-evaluation, was then trialled in an action research project in six early childhood centres (Carr, May, Podmore et al., in press).

Action Research

The action research project was designed to:

> 1. Construct an overall framework for assessment and evaluation in early childhood programmes in Aotearoa-New Zealand, by combining the foundation work of Margaret Carr's Ministry of Education research project *Assessing Children's Experiences* (1998a)*,* and Val Podmore and Helen May's Ministry of Education project *Evaluating Programmes Using the Strands and Goals of Te Whäriki* (1998).

> 2. Use this framework to develop an evaluation process through an action research trial in a small range of early childhood centres.

A first premise of the research project was that assessment and evaluation are entwined. A second premise is that assessment and evaluation are an integral part of implementing Te Whärikias a living curriculum in early childhood programmes. A third premise, one that had emerged clearly in the assessment project, was that practitioners could do their own research, trialling structures and ideas, adapting and altering them to match their own context. This was the whäriki model. In this project, an action research model was chosen, to reflect that whäriki process.

The project drew on the action research framework of Kemmis and McTaggart (1988), and on approaches used in related New Zealand studies (e.g., McPherson, 1994) to implement an action research spiral approach in six early childhood settings.

The "Child's Questions"

The project developed ideas from Carr (1998a) and Podmore & May, with Mara (1998) to establish a structure for evaluation of 'child's questions'. Their full and simplified forms are:

Belonging: "Do you appreciate and understand my interests and abilities and those of my family?" ("Do you know me?")

Well-being: "Do you meet my daily needs with care and sensitive consideration?". ("Can I trust you?")

Exploration: "Do you engage my mind, offer challenges, and extend my world?" ("Do you let me fly?")

Communication: "Do you invite me to communicate and respond to my own particular efforts?" ("Do you hear me?")

Contribution: "Do you encourage and facilitate my endeavours to be part of the wider group?" ("Is this place fair for us?")

These "child's voice" questions provided the initial questions that centres asked of themselves as they begin their journey of evaluation. The approaches developed and trialled were a selection of evaluation and assessment strategies described as action research tools. Examples of possible tools were prepared, and these were selected, trialled and

adapted by the practitioners. Some practitioners developed their own action research tools to answer the "child's questions". Many of the tools included observations, and the data that emerged were both quantitative and qualitative in form.

Action Research Tools: criteria of merit

The action research tools are about the complex 'interplay of individual experience and the engulfing cultural communicative society' (Nelson, 1996, p.327), and any evaluation of that complexity will be an interpretive process. Many of these tools include observations, and the data are qualitative or interpretive in form.

A set of principles was developed as a guideline for the construction of action research tools. These principles were later developed further as 'criteria of merit' from which practitioners and researchers could judge the value of the action research tools that they trialled. For each action research tool, the practitioners and researchers discussed eight questions pertaining to merit. In a sense the questions reflected standards or types of validity for formative and local research self-evaluation tools.

We looked to three sources for our questions about utility or merit: the standards developed for formative assessment procedures in authentic curriculum-based approaches that have been developed by Stephen Bagnato for early intervention (Bagnato, 1997); the three elements of validity outlined in Gee and Green (1998) for discourse analysis and ethnographic perspectives; and the types of validity developed in Anderson and Herr (1999) for practitioner research.

Three of the criteria or standards of merit in those sources more appropriately referred to entire *evaluation programmes*: whether several sources of data (tools) are employed for each child's question of interest (**convergence**), whether all participants are involved (**collaboration**), and whether different perspectives are included (**equity** and **agreement**). The following questions were asked of the *individual action research tools*, and matched the other criteria or standards of merit in the following way:

- **accessibility** (the data are not difficult to collect)

Question: is the data collection quick and easy?

- **authenticity** (it focuses on natural authentic settings and everyday contexts)

    Question: is it capable of starting an analysis and planning process (in a short time frame)?

- **catalysing** (it energises practitioners)

Question: is it capable of energising staff to reflect on their practice?

- **challenge** (it is capable of challenging assumptions, not just affirming what we know already)

Question: is it capable of surprise, challenging assumptions?

- **congruence** (it reflects the construct of interest; also called construct validity)

Question: is it linked to the child's question in a transparent way?

- **coverage** (a capacity for continuity and comparison; the criteria are consistently interpreted),

Question: are the data that emerge precise?

- **leverage** (it is capable of leading to action and change, and it provides a way of showing that the action made a difference)

Question: is it capable of showing that action had made a difference?

- **sensitivity** (it provides a clear direction for curriculum development or intervention),

Question: are the data capable of being analysed?

The most successful tools in relation to eight questions were those that:

- generated the most reflective discussion: they challenged assumptions,
- they provided data that make sense;
- could be translated into a chart, an accessible and easily read evaluation where the data could graphically reflect change;
- spoke to the interests of the staff and community;
- included peer observations of each other in an atmosphere of trust; some tools included a recommendation that an external 'critical friend' would be a useful evaluator;
- included early discussions and agreement about the criteria involved.

Action research evaluation procedures

Practitioners in the centres chose a child's question, then selected, adapted, or devised a self-evaluation action research tool for gathering data. Then they observed, reflected, planned, and acted (in varying order). At the conclusion of the trialling of the action research tools, the research facilitators interviewed the participating practitioners in the centres. These interviews included some discussion of the eight questions that were developed to evaluate each research tool. Finally, it was intended that, in a cycle of evaluation, the centre practitioners would put in place structures, systems, and processes as appropriate to improve the implementation of Te Whäriki, and consequently enhance the experiences of children. These were described as Teaching Stories.

The research facilitator responsible developed a summary report and a full draft case study of the early childhood centre, in consultation with the centre participants and the project directors. The summary case study reports are included the final report for the project (Carr, May, & Podmore, et al., in press); they outline the context and philosophy of the centre, and report on the strategies adopted and trialled during the action research process.

Comments

The projects' findings have a number of implications for assessment and evaluative practice in early childhood programmes in Aotearoa New Zealand. Firstly, documented assessment and evaluation can make a valuable contribution to curriculum implementation in creative and thoughtful ways. Secondly, programmes will implement Te Whäriki in different ways, and the whäriki model in which practitioners develop their own procedures from guidelines and frameworks that make sense to them can work well. Thirdly, decisions about what to assess and what to evaluate are fundamental. Fourthly, the Learning Story and the Child's
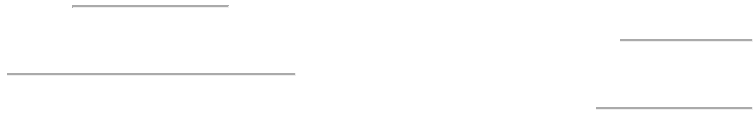
Questions frameworks are useful. Fifthly, professional development on assessment and evaluation in early childhood settings should include supporting practitioners over extended periods of time to foster reflection and action research, and practitioners should be encouraged to adapt models of innovative practice to suit their programmes.

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APPENDIX: DIAGRAM 1 HISTORY OF THE PROJECT: TE WHÄRIKI, ASSESSMENT AND EVALUATION