

A framework for teaching learning: the dynamics of disposition

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This paper draws on examples from New Zealand early childhood settings to illustrate a dynamic approach to learning dispositions. It sets out three dimensions along which a 'learning curriculum' can strengthen valued responses to learning opportunities: increasing their frequency and robustness, widening their domain, and deepening their complexity and competence. It is suggested that learning environments can be variously affording, inviting or potentiating (powerful) and that in potentiating learning environments teachers explain, orchestrate, commentate on, model and reify learning responses, and frequently the families and children participate in these processes as well. Although the question of 'what' learning dispositions is set aside, the paper argues that it is better for teachers in early childhood settings and classrooms to be explicit about valued responses and their trajectories than to leave them implicit, and therefore often unacknowledged and unattended.

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In our previous work (e.g. Carr, 2001; Carr & Claxton, 2002; Claxton 2002), we, like many others, have argued that education for the 21st century must aim at developing young people's ability to be skilful and confident when facing complex predicaments of all kinds. While it is important to present students with valuable and engaging topics, this 'content curriculum' ought to be accompanied by attention to the attitudes, values and habits towards learning in general which are being strengthened (or weakened) in the process—what we have called for the purpose of this paper the 'learning curriculum'. Like others (such as Perkins Jay & Tishman, 1993) we have tended to articulate these goals in terms of a combination of learning inclinations, sensitivities to occasion, and skills. We have described them as being *ready, willing* and *able* to engage profitably with learning.

These attributes, in whole or part, have been variously called dispositions (Katz, 1993; Perkins *et al.*, 1993) orientations (Dweck, 1999), habits of mind (Costa, 2000) and participation repertoires (Comber, 2000; Carr, 2001). Most definitions have particularly highlighted the importance of 'inclinations', though the concept has proved 'hard to pin down' (Perkins *et al.*, 1993, p. 18) with the degree of clarity

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that would be helpful to teachers. Carr (2001) and Cowie and Carr (in press) have attempted to clarify the situation by suggesting that ‘inclinations’ are centrally associated with identity as a learner, social schema, and ‘possible self’ (Cross & Marcus, 1994).

A number of goals for a learning curriculum—learning dispositions, learning orientation, habits of mind, and so on—have been advocated by educators in the UK, USA and New Zealand (e.g. Meier, 1995; Goleman, 1996; Costa, 2000; Carr, 2001; Brooker, 2002; Claxton, 2002; Pascal, 2002). Delpit (1995) reminds us to view critically any putative array of valued attributes, as they will necessarily reflect a particular cultural perspective. We do not propose to continue that discussion, except to note that all education inevitably makes such value-laden choices, and they are therefore better made explicitly, so they can be recognized and debated. Each educational site will have its own priorities. What is clear is that early childhood centres and schools do change children’s learning orientations, for better or worse (e.g. Dweck, 1999), and it is risky to pretend otherwise. There is always a ‘learning curriculum’, and it can steer students towards or away from developing the attributes of effective learning. Given that the outcomes (the array of dispositions, orientations, habits of mind, or participation repertoires) of a ‘learning curriculum’ will be always be locally constructed, and therefore contentious, this paper reflects instead on ways of looking at the dynamic and developmental features of any such curriculum: how progress or direction might be analysed, how powerful learning environments might be described, and what strategies teachers use. Illustrative examples come from early childhood settings in New Zealand, where the strands of the national early childhood curriculum (Ministry of Education, 1996) are identified as well-being, belonging, contribution, communication and exploration, and learning outcomes are summarized as working theories and dispositions.

Verbs and adverbs: the dynamics of a learning curriculum

We suggest that, when we look at what value these ideas of ‘life-long’ learning might have for teachers in early childhood settings and schools, there is merit in reading ‘disposition’ not as a noun, as a ‘thing’ to be acquired, but as a verb with qualifying adverbs. One does not ‘acquire a disposition’, one ‘becomes more or less disposed’ to respond in such-and-such a way. Learning dispositions can be construed as *default responses* in the presence of uncertain learning opportunities and circumstances. Suppose that the idea of ‘the effective learner’ can be unpacked into a number of *learning attributes*: tendencies towards ‘persisting’, ‘questioning’, ‘collaborating’, and so on. For present purposes, it does not matter what these attributes are, nor whether they can be specified precisely or exhaustively. What is at stake here is how we can take a dynamic approach to such qualities: charting their potential or possible direction of growth, and therefore providing some guidance about what we do that strengthens or weakens them. In our view, ‘persistence’ is not something that a learner ‘acquires’. Instead, we see growth as a change in the likelihood that they will respond to difficulty in certain ways: by sticking with it; voicing doubts and digging below the surface, for example. These responses are then modified by a

range of adverbs: an individual engages in them more or less *frequently*, or *appropriately*, or *skilfully*. It is the strength of these tendencies, we suggest, that changes over time, and which teachers influence, knowingly or not, through the kind of early years setting or classroom milieu which they create.

Specifically, ‘progress’ is represented as change in three dimensions of this ‘strength’: robustness, breadth and richness. The first modifier is *robustness*, and by this we mean the tendency to respond in a learning-positive way even when the conditions are not as conducive or supportive as perhaps they once needed to or appeared to be. Whereas a toddler used to need to keep reassuring herself that her mother was within sight, before she could re-dedicate herself to an activity, now she is more ready willing and able to persist on her own.

For example, in a New Zealand childcare setting, one parent made the following comment about her toddler’s increasing capacity for persisting in an interesting activity even when the lack of support (mother’s presence) has become apparent. She said: ‘I arrived at the day-care to collect Kieran and he was out the back making music. I watched him banging the xylophone and clacking the clackers. His enjoyment of this experience was obvious from the expression on his face. He was also quite content to carry on with his activities instead of his usual “drop everything and cry if Mum doesn’t pick me up immediately”.’ In our view, success in the learning curriculum is reflected in the increasing robustness of the learning verbs (such as ‘persisting’, ‘asking questions’ and so on.).

Secondly, the positive learning responses may develop in terms of the number, range or variety of different domains in which they appear; they develop greater *breadth*. Whereas robustness may be principally a matter of tolerating or managing the emotions of learning, breadth concerns the development of perception—realizing that the habits of learning that have stood you in good stead in one domain—doing jigsaw puzzles, say—are also applicable and useful in another—trying to write a story. The learning response, though it may initially have taken root more strongly in the context of one activity than another, can spread in its application so that it becomes more ‘across the board’. In that sense, we might say that someone has become more ready, willing and able to recognize and perhaps to reinterpret the affordances of a wider learning environment. They see that *this* context, or task, makes possible, or invites, the deployment of the same quality of persistence, say, that they have already developed and learned to use to good effect in *that* context.

For example, Flynn’s early childhood centre portfolio, an assessment record of his learning (including written comments from his family), records events of increasing inclination to collaborate with others over a year. The early entries (at three years of age) depict and describe him working away at jigsaws on his own, and jumping and drumming on his own in the music area. Some time later the teachers note that he is exploring sounds with one other child. A few months later, an entry describes him initiating and orchestrating a group of children for a ‘drum and shaker’ activity. Towards the end of the year a written explanation attached to a photograph of Flynn playing in the sandpit records: ‘Flynn involved in creating drains in the sandpit. Flynn did a lot of supervising but also “mucked in” and did some drain laying. Flynn worked with the group comfortably’. By the end of the year, Flynn was

strongly ready, willing and able to engage in collaborative activities in sand play, a magnetic board game, socio-dramatic play, and carpentry, as well as a domain of great interest, music. His collaboration had become broad as well as robust.

The third ‘adverb’ of learning disposition is *richness*. Children’s persisting, questioning or collaborating can develop in flexibility and sophistication. Whereas at one time ‘persisting’ may simply have meant not giving up on a problem, later it can incorporate more elaborate strategies for mood repair, emotional maintenance or marshalling assistance, and these strategies may become more subtle, and more delicately contingent on the sources of support or recuperation that particular environments afford.

The following is an extended example from a New Zealand kindergarten in which Sarah’s learning portfolio illustrates the rich range of supports that she has learned to call on in order to support her perseverance with difficult tasks. Sarah’s kindergarten programme includes long-term projects, some that the teachers devise, and some that are initiated by the children. Sarah’s portfolio shows that during the year before she turned five and went to school she was involved in several major projects. One of these projects, initiated by her friend Tane (who was taught to sew by his grandmother, and brought the skill and the interest to kindergarten), was sewing, and although she was acquiring useful skills and knowledge about sewing, fabric and pattern-making, she was also developing increasingly sophisticated and creative approaches to collaborative problem-posing and problem-solving, developing and sustaining her interests over time in the company of others. The following selection from a series of narrative assessments records the following:

1. Tane said ‘he was going to teach Sarah how to make an apron and he was going to make a bag’. He drew the pattern and Sarah and Viliami watched attentively while he cut the fabric.
2. Sarah and Tane discussed their ideas about the different fabrics for different purposes. Sarah decided to make a ‘board with material on it’. With assistance from the teacher, she made a sign for the board: ‘No shoes allowed in my room’.
3. After Tane sewed a motorcycle helmet (with adult assistance) on the sewing machine with some black lacy fabric, Sarah sewed an arm band and a hat out of the same fabric.
4. Sarah and Tane and Leon decided to make ambulance jackets. The teacher reminded them that they would need a pattern and with the teacher they discussed how to develop a pattern from the centre’s jackets. They decided that ‘ambulance trousers’ would look good, but ‘we haven’t got a pattern for that’. The teacher knew that Sarah’s mother sewed, and suggested that Sarah’s Mum might have one. Sarah’s mother provided a pattern. The trousers were made.
5. The three children then decided to make bags, and this bag-making ‘triggered interest from many others and so the bag factory began’.

In our view, Sarah was learning about the ‘distributed’ nature of persevering with an interest over a long period. She was discovering that learning is distributed across or ‘stretched over’ (Perkins, 1993; Salomon, 1993) peers, teachers, family and material

resources, and that to sustain her project, she had to learn how to ‘manage’ this extended network of support. The resources (a range of interesting fabrics, a sewing machine) afforded the creative pursuit of a topic of interest, but in addition peers acted as models, consultants and collaborators, and teachers took an interest (and at times the initiative), and assisted with the more difficult tasks (using the sewing machine, making patterns, expanding language, offering the information that, for example, Sarah’s mother could be the source of a trouser pattern). Families helped as well. Sarah pursued her interest over at least two months: observing, discussing, and growing more enthusiastic and confident about making her own decisions for her own purposes; becoming more ready, willing and able to ask for and receive help from adults; and expecting to learn from others’ ideas, becoming more inclined to collaborate with them. She had become much more skilful at marshalling and building for herself the scaffolding she needed in order to persevere in difficult enterprises.

Learning environments

The perennial educational questions are: where are we trying to get to, and how best to get there? In the previous section we sketched a framework for thinking about the first question: a framework that draws attention to long-term learning trajectories, rather than to the accumulation of particular bodies of ‘knowledge, skill and understanding’. Now we turn to the implications of that framework for thinking about the nature of settings and methods that are conducive to these learning goals. We have found the idea of a classroom as a ‘learning community’ useful (Rogoff, 1990; Brown *et al.*, 1993; Burton, 2002). Sarah’s learning community was one in which useful resources were available, interesting projects invited children’s engagement, expectations encouraged the children to sustain interests over long periods, and adults and children modelled and assisted each other, sharing the initiation and leadership of learning episodes.

We differentiate between four kinds of educational environment or learning community. With respect to each of a particular set of learning attributes and their dimensions, any environment may be prohibiting, affording, inviting or potentiating. A *prohibiting* environment is one in which it is impossible or dangerous to express a particular kind of learning response. A tightly scheduled programme, where children move from one routine to the next in rapid succession, makes it impossible for children to persist and to be engaged over any length of time. Some classroom activities prohibit students from collaborating. An *affording* environment, in our terms, is one which provides opportunities for the development of a range of learning attributes, but they may not be sufficient for all children: there may be no particularly deliberate strategies to draw students’ attention to those opportunities and value is not placed upon them. By contrast, an *inviting* environment is one that not only affords the chance to ask questions, for example, but clearly highlights this as a valued activity. Asking questions or working with others is made attractive and appealing to students. Finally, we identify what we call *potentiating* (powerful) environments: those that not only invite the expression of certain dispositions, but

actively ‘stretch’ them, and thus develop them. It is our view that potentiating environments involve frequent participation in shared activity (Rogoff *et al.*, 1993 p. 533) in which children or students take responsibility for directing those activities, as well as adults (Brown *et al.*, 1993).

For example: three-year-old William, in an early childhood centre, told one of his early childhood teachers that he wanted to draw the centre’s budgies. The teacher reminded him where the drawing equipment was, and 15–20 minutes later William tapped her on the shoulder to explain that he needed help and he just could not draw the birds. The teacher was busy, but returned after a time and asked ‘How are you going?’. ‘I can’t draw the birds’ said William. ‘See, look’. He had completed eight drawings ... ‘I can’t do it, those ones are wrong’. The teacher commented that the centre had a book about budgies: would that help? William thought that it would. They found some budgie pictures, and William began again, asking the teacher for advice about what bits to draw first. He completed the drawing to his satisfaction.

The teacher here was sharing the responsibility for the task with William, but it remained the child’s task. She modelled using a book for reference when you’re ‘stuck’ and she recorded the process in written observations and photographs of the drawings and of William at work. At the end of the written and photographed record she included an evaluation that referred to the attribute of value: ‘I was so impressed with William’s dedication and perseverance today. He worked for over an hour on this project in total, and has produced some stunning pictures’.

A potentiating environment shares the power amongst the teacher and the learners. Some might argue that explicit training and reinforcement in desirable learning habits is the most reliable and effective method of inculcating them. But while such training can change behaviour, a potentiating environment changes the learning trajectory. As Graue and Walsh (1995) say:

A key distinction we would make is between action and behaviour. Action is located within specific cultural practices and time. It is populated by meaning and intentions, and is tethered to particular communities and individuals. In contrast, behaviour is stripped of these local characteristics; it is ... without narration. (p. 148)

It is unlikely that a change of behaviour, not ‘populated by meaning and intentions’ or jointly constructed, will develop the robustness, breadth or richness of learning responses. For example, the well-known ‘undermining effect’ (Lepper & Greene, 1978) shows that in some circumstances direct praise can weaken rather than strengthen students’ inclination to produce the rewarded reaction spontaneously, in the absence of the conditioned reward. In effect, any kind of well-intentioned ‘learning-to-learn drill’ may make students more able, but at the cost of ignoring, or even weakening, their inclination to be ready and willing.

Whether an affording environment is actually an effective environment for the development of powerful learning responses will depend on a number of other factors: the social identity to which the students owes allegiance (an ‘oppositional social identity’: Goodenow, 1992; an identity as ‘being good’: Carr, 2001, p. 27), the roles that the teachers perceive to be appropriate (their view of themselves as

teachers), and prior experience. With regard to the latter, we might hypothesize that students who have already developed a certain degree of robustness, breadth and richness in a learning attribute may be oriented towards spotting relevant learning affordances for themselves, and will therefore be able to make use of the environment to bootstrap their own development still further. On the other hand, students who lack this foundation may not be alive to the possibilities that are latent in their environment, and may therefore return to their default response. They may not 'read' the environment to take advantage of the learning opportunities (Comber, 2000). Anecdotal evidence for this is provided by interviews with a number of adults who had been at Summerhill, the English progressive boarding school at which children were free to do or not do pretty much as they liked (Bernstein, 1968). In their own retrospective estimation, children who had already possessed a reasonable degree of self-discipline and self-determination when they arrived tended to thrive; those who did not, floundered. The latter children, according to their adult alter egos, needed a greater degree of scaffolding and guidance in how to make productive and cumulatively positive use of their freedom, than they had received.

What teachers do in a learning curriculum

We also differentiate between four aspects of the teacher's role in the classroom (Claxton, 2002). First, teachers *explain*, in the specific sense, in this context, of making explicit the learning curriculum. They set the scene, and define the purpose of 'being there' to students in terms that draw overt attention to the development of learning as a valued goal. In Sarah's kindergarten, the written curriculum and the folios of achievement that referred to the curriculum clearly defined the purpose of being there. Second, teachers have the option to *orchestrate* the resources and activities of the classroom in a way that creates an inviting and potentiating environment for all of the students. If teachers want to strengthen the readiness, willingness and ability to collaborate, for example, they can select activities and arrange the lesson in such a way that collaboration is necessary and attractive (see, for example, Ann Brown's use of 'research groups' and 'jigsaw groups', Brown, 1997). Sarah's teachers have become experts in recognizing a potentially rich learning project when it comes up, and they will initiate activities as well.

Third, teachers *commentate* on both the learning processes as they are happening, and the resultant products, and in doing so they powerfully scaffold students' learning trajectories and direct the students' attention towards aspects of their own performance. William's teacher was an example of this. Teacher feedback can serve to specify and construct both attainment and improvement (Sadler, 1989; Ames, 1992; Tunstall & Gipps, 1996; Black & Wiliam, 1998; Torrance & Pryor 1998) but it is through the mutual construction of achievement and improvement that children can move from recipient to active participant in the process of discussing and making choices about their learning. Through 'formative assessment', as well as informal comments and formal marking, the learning curriculum can either be foregrounded or buried. And fourth, the teacher has the moment-to-moment opportunity to *model* the responses of an effective learner. William's teacher mod-

elled the use of books and pictures when you are stuck with a drawing; Sarah's teacher (as well as her mother and a peer) modelled the role of expert assisting others.

Reification

Both the learning environment and what teachers do includes reification: 'the process of giving form to our experience by producing objects that congeal this experience into 'thingness'' (Wenger, 1998, p. 58). Writing about the design of an education programme that affords the negotiation of meaning, he argues that two processes need to be in balance: 'reification' (making public, making concrete) and participation.

I have argued that participation and reification are dimensions of both practice and identity. As such, they are two avenues for influencing the future—whether the direction of a practice or the trajectory of a person. In this sense, participation and reification are two complementary aspects of design that create two kinds of affordance for negotiating meaning: (1) one can make sure that some artefacts are in place—tools, plans, procedures, schedules, curriculums—so that the future will have to be organized around them; (2) one can also make sure that the right people are at the right place in the right kind of relation to make something happen. (Wenger, 1998, p. 231)

We suggest that the design of a potentiating learning environment also needs to balance these two processes.

In all of the above early childhood examples, teachers had taken photographs of children's learning achievements, moments when they were, even for short time, acting at the leading edge of their own capability. Many of the teachers had also captured learning moments as written *learning stories* which add an analysis emphasizing the valued learning and suggestions for the next step in the learning (Carr, 2001, Cowie & Carr, in press). Such reifications make concrete and visible for the student and the family the kinds of responses that the teachers find valuable. A photograph of a child being an attentive listener and a good collaborator, for example, may serve as a tangible reminder, a public testament to learners, teachers and families that such actions are, at least occasionally, within this child's compass. Research reminds us that both family (Frome & Eccles, 1998) and teacher (Timperley & Robinson, 2000) expectations are powerful influences on achievement. For students who can read and write, student-made posters on the classroom wall, recording all kinds of student-generated ideas about 'What to do when you don't know what to do', can likewise act as a running record of their achievement (in thinking about learning), and as a ready set of prompts, to be referred to when 'stuck'.

The commentary on students' achievements, the written records, the photographs, can all be co-constructed by children and families. Some early childhood centres have sent home disposable cameras for children to take photos at home, or loaned the children a camera to record their own work in the early childhood setting. Children have dictated their own stories, and their families have contributed stories and photographs from home to the early childhood centre's folders. These positive

reifications then function as ‘grappling hooks’ which the students can project into the future—tangible tokens of ‘possible selves’ (Cross & Marcus, 1994)—which they can work their way towards. Many of the reifications that have been described—photographs, learning stories, and personally annotated posters—make public a personal target that individual students know they can achieve, or make public the identity of the child as a successful learner. For example, one parent added a comment to her child’s early childhood folder: ‘Charlotte is very proud of her folder ... she took it home and couldn’t wait to show her sister as soon as she got out of school and then all our family who came to visit at the weekend. She wanted to talk us through every aspect!’ Charlotte is using the reified record of her achievements to remind her sister and her family that she is a competent learner, and thus to create an environment that will help her improve still further.

The other side of Wenger’s balance is participation, ensuring that: ‘the right people are at the right place in the right kind of relation to make something happen’. It is the participation in a classroom or an early childhood setting with others who orient their actions to common values that contributes to a sense of belonging to a community of learners, and to a strengthening identity as a learner. The fact that a classroom or an early childhood centre contains a large number of individuals both makes the teachers’ job more complicated, and also opens up new possibilities for transaction and mutual meaning-making. There are plenty of opportunities for students to learn from each other. Cowie and Carr (in press) describe a sequence of episodes in which a 27-month-old assists a 20-month-old peer with her lunch. The older child models being a teacher, caring for the younger one, Tenaya, and consulting her about her needs. Some time later Tenaya plays the same role for Sean, who is about the same age. They are learning from each other, and at the same time modelling some features of this learning community for others to follow.

Concluding comments

Education necessarily and cumulatively affects individuals’ tendencies to respond to, interpret and construct learning opportunities in certain ways, strengthening some of these ways and weakening others, and we have argued that it is better to be explicit about valued responses and their trajectories than to leave them implicit, and therefore often unacknowledged and unattended. This paper has suggested a dynamic approach to being ready, willing and able to learn. We firstly suggested that it is the role of classrooms and early childhood settings to strengthen valued learning responses and actions along three dimensions: increasing their frequency and robustness, widening their *modus operandi*, and deepening their complexity and competence. We described them as verbs and their dimensions as *adverbs*. (Thus, we might say, ‘X asks questions *robustly*, while Y collaborates *richly*, and Z persists only *narrowly* (i.e. in only one domain).’) Secondly we argued that in potentiating learning environments teachers explain, orchestrate, commentate on and model learning responses, and frequently the children do too. Teachers also contribute to the establishment of learning communities in which children, students, teachers and

families participate together to negotiate meaning, and all participants have a role in reifying the learning of value.

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