Chapter 7
The Dance of the 'Duality of Structure and Agency'

The implementation of the Sustainable Schools Program (SSP) was accompanied by the development of educational rhetoric–reality gaps. Such gaps were represented by the incongruence of a teacher's classroom pedagogy and self-description of that pedagogy, and between a teacher's understanding of the rhetoric of SSP and actual implementation of SSP. Most significantly, when asked to implement SSP through the mandated socially-critical pedagogy, most teachers failed to do so, and chose a vocational/neo-classical or liberal-progressive approach. The case studies of the teachers who were required to implement SSP indicated that the practicalities of undertaking a socially-critical pedagogy most strongly influenced a teachers' ability to effectively implement the program. This chapter draws on Giddens' theory of structuration to identify the critical ontological elements of structure and agency that both constrained and enabled the teachers to deal successfully with the practicalities of implementing a socially-critical pedagogy, most particularly in relation to: learning spaces (Sect. 7.1); routine and time (Sect. 7.2); and other learning resources (Sect. 7.3). Giddens' notion of the duality of structure and agency informs the understanding that relationships between these ontological elements defined the major differences between the teachers whose practices represented best practice, and those whose practices represented a rhetoric–reality gap in the implementation of SSP through a socially-critical pedagogy.

7.1 Learning Spaces

A socially-critical pedagogy requires both the students and the teachers to not only re-define their roles in the learning process, but to also re-define what constitutes a learning space. The rhetoric–reality gaps in the implementation of the Sustainable Schools Program (SSP) indicated that some teachers were unable to re-define their practices in these ways. These teachers' experiences provided valuable insights into

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the ways in which learning spaces both shaped, and were shaped by, their practices. Although all learning environments incorporate a range of both social and physical aspects, the term learning space is used here to refer to just the physical attributes of a learning environment.

The notion of learning spaces was a prominent theme in the SSP documents and the rhetoric of both the principals and the teachers. Indeed, the SSP five-star accreditation process demanded that schools make significant changes to aspects of the management, organisation and design of both indoor and outdoor learning spaces. This was seen to position education within a more sustainable learning environment, and reflected an understanding that if a socially-critical pedagogy was to become widely and effectively implemented, the design of new educational learning spaces must incorporate:

> an awareness of the need for diverse types of learning spaces to offer multiple approaches to the acquisition of different sorts of knowledge or skills, and a greater emphasis on environments that recognise learner–learner interactions as well as learner–teacher interactions (Rudd et al. 2006, p. 9).

The development of new learning spaces was often presented as important evidence of a school’s progression towards the effective implementation of SSP, and considered a necessary resource for motivating and enabling the teachers to undertake a socially-critical pedagogy. It is interesting to note that the schools were provided with a step-by-step process for effectively transforming and/or developing learning spaces in order to achieve SSP five-star accreditation, but no similar process was provided to guide the teachers in how to transform their pedagogy in order to more effectively use these new learning spaces.

The notion that learning spaces are critical to achieving particular educational outcomes is not a new idea. For example, Lippman (2002) argued that traditional classrooms represent learning spaces designed to accommodate the “short term information mastery goals” of a traditional vocational/neo-classical pedagogy, characterised by “a single adult interacting with many in relative impersonal social relations in which social rules, principles, and guidelines govern the activity” (p. 5). Similarly, Van Note Chism (2006) noted that “traditional classrooms tend to be designed on the basis of transmission theory whose built pedagogy says that one person will ‘transfer’ information to others who will ‘take it in’ at the same rate by focusing on the person at the front of the room” (quoted in Rudd et al. 2006, p. 9). Lippman (2002) believed that such learning spaces were designed primarily to “control behaviour” (p. 5), with the effect that they “reinforce for children that they have little power to make changes in their daily lives, affect their environment, or [have] opportunities to examine alternative ways of living” (p. 5). As discussed earlier, in light of these ideas, and the notion that every space is a learning space, the principals often justified their decision to implement SSP according to the need to develop learning spaces as vehicles for change (e.g. the new school buildings at South Bay Primary School), or to better use existing spaces (e.g. the outdoor spaces at Ocean Primary School).

7.1.1 Learning Spaces: Vehicles for Change

At some of the schools, the impending building of new facilities was an important factor in the decision to implement SSP, and reflected the principals' beliefs that new learning spaces would motivate the teachers to embrace pedagogical change. Several of the teachers indicated that the provision of new and different learning spaces was absolutely essential to their ability to implement certain types of pedagogy and to provide different learning experiences.

Lisa, for example, commented that the layout and design of the current school buildings and classrooms made it very difficult for her to alter her existing pedagogy. In particular, she noted the necessity to be constantly "moving rooms" or "moving furniture" in order to accommodate the activities she believed to be best suited to a socially-critical pedagogy. She hoped that the new classrooms would enable her to "accommodate" opportunities for shared learning through the interaction of students in different classes. Lisa was also adamant that she was unable to change her well-established vocational/neo-classical pedagogy to a socially-critical pedagogy until she had access to what she considered to be an "ideal classroom". She described such a learning space as still needing "four walls" but which also provided "access straight out into outdoor learning areas", because "I'd love to have an area where you could work outdoors". Barrett (2007) notes that the "ability to take students outside" is commonly "cited as a problem" by teachers when questioned about their inability to implement effective environmental education. However, as Lisa's school had recently completed the development of a range of outdoor facilities, including a frog pond, and native and vegetable gardens, and was situated near a variety of community and natural spaces, Lisa's notion of what was required to work outdoors was not easy to determine. Her comment that she could not expect the students to sit outside in the "direct sun" may have indicated concerns regarding health and safety, but this was not supported by a previous decision to allow the students to walk along the local river for a water quality project. Alternatively, Lisa's comments suggested that she was searching for a way in which to merely transfer her existing classroom practices into an outdoor setting rather than implement more participatory or socially-critical approaches.

Lisa's case highlighted a disconnect between the principals' rhetoric regarding the need to provide learning spaces as motivation for pedagogical change, and the teachers' references to the lack of appropriate learning spaces as justification for not being able to implement pedagogical change. In Giddens' terms, Lisa's access to a range of new and different learning spaces suggested that her rhetoric concerning her inability to undertake change reflected a discursive consciousness (see Fig. 4.2), that is, a verbal justification that reflected underlying values that prevented Lisa from implementing a socially-critical pedagogy, not an actual lack of learning spaces.

Like Lisa, Elizabeth indicated that Mountain Primary School had developed a wide range of learning spaces. She proudly explained how important the kitchen and native gardens with shaded courtyards and outdoor seating were in demonstrating

to the local community Mountain Primary School's ability to implement SSP. However, her use of these facilities, along with the multitude of easily accessible community and outdoor learning spaces close to the school, was limited to augmenting the knowledge acquisition component of pre-established curriculum projects (see Fig. 5.2). Although Elizabeth did indicate that some aspects of the learning spaces she used would benefit from better design, for example, allowing her students to share work with other classes depended on "if it's quick and easy to get to that room you can do it", unlike Lisa, she did not equate her use of a vocational/neo-classical to inadequate facilities.

The principals at other schools justified the implementation of SSP as a way of making better use of existing outdoor learning spaces. At Ocean Primary School, for example, David explained that because the school was situated on "a very large site" and because all of this land represented "a learning area…[as] a learning area isn't just a classroom" the principal sought to address parental and social expectations that the school be "environmentally responsible" with this land. Despite ready access to outdoor learning spaces, David explained that in order to effectively use these "special learning areas" specific, appropriate facilities were required to be developed. He indicated that, through the implementation of SSP, such outdoor facilities had been developed. He explained:

> my kids just love it when I take them out to the farm and to see those things growing…it's different to, you know, the old equivalent thing was the little saucer of cotton with the little seed growing out of [it], well now we've got a hot house out there, now the Preps [preparatory year students] can have their own vegetable garden…so all those things have added to help it [acceptance of SSP]…material changes which have added to that momentum [for change].

David believed that the provision of specific learning facilities, such as an "indigenous garden", had legitimised the use of Ocean Primary School's land for outdoor learning. As demonstrated by David's use of a new courtyard as a convenient site for his students to investigate issues related to human behaviour and the creation and disposal of litter, David viewed these outdoor learning facilities as "nice" environments, provided and designed by the school, within which learning tasks could be undertaken. Students' contribution to the planning, design, and development of these outdoor areas was limited. David noted that the improvements to the outdoor areas were considered by many of the teachers to be the school's ultimate goal for introducing SSP, that is, to "provide a nice learning environment" rather than to facilitate the continuing development of new pedagogies. He stated that "now what I want to address in the future…is complacency", because many of the teachers held the attitude that "oh sure the [courtyard] looks nice so now we don't have to do anything more".

Thus, although the implementation of SSP provided a reason, and momentum, for Ocean Primary School to improve many aspects of their existing outdoor learning spaces, the potential for these learning spaces to contribute to pedagogical change was not fully realised. In other words, and as demonstrated by both Lisa and Elizabeth, the provision of a range of learning spaces with the physical or structural

features conducive to SSP-related activities did not guarantee that the teachers could, or would, implement a socially-critical pedagogy.

7.1.2 *Every Space a Learning Space*

The teachers who claimed to have inadequate spaces for learning, such as Lisa, often made little effort to alter either their teaching environment or their teaching practices so that they could more effectively utilise the spaces around them. The teachers who most successfully utilised a range of learning spaces, irrespective of the age or design of their classroom and school facilities, made conscious and deliberate efforts to either adapt each learning space to their students' needs, or to adapt their pedagogical approach to make the most of the learning space at hand. In other words, the ability to use any space as a learning space depended on the teachers' agency.

Both Cathy and Karen effectively utilised a range of learning spaces in order to implement SSP through a socially-critical pedagogy (see Figs. 5.1 and 5.4). Cathy enjoyed a school environment which, although not extensive, was well-designed to incorporate areas of native gardens and natural bush land. Although Cathy's approach to SSP incorporated projects which focused on the use of these outdoor areas, as well as a variety of learning spaces outside the school grounds, the majority of her work was based in a relatively small and traditional classroom equipped with the usual array of student furniture, book cases, cupboards and a white board. Unlike Lisa, the structural constraints of a traditional classroom learning space did not constrain her ability to implement SSP, to the extent that her practices exemplified a socially-critical pedagogy. Cathy understood that any space could become a space for learning if it met the needs of the students: a belief supported by the notion that learning space "is first and foremost about education, not architecture" (Rudd et al. 2006, p. 3).

Cathy used a socially-critical pedagogy to facilitate student–student interactions in her traditional classroom, by encouraging the students to negotiate, collaborate and cooperate in organising the learning space in any way that met their needs. As a result, Cathy's classroom represented a constantly changing learning space quite unlike the static and uncompromising setup of Lisa's classroom. Cathy actively invited the students to identify potential learning spaces and to find ways in which to utilise them, stating that "what we've found [is that] things that have sort of cropped up since we started [SSP] have been fantastic programs, for instance, our nesting box program…initiated by one of the year 4 girls", which involved a scientific study of birds in a previously unused area of bush land along the school boundary. In contrast, Lisa noted that the students were not encouraged to participate in the development of learning spaces at her school, stating that, for example: "we've got some veggie gardens up the back now, but I don't know where that idea came from, it just seemed to appear one day…I think that it was a parent [who] did it…I don't really know where the veggie garden came from". Cathy demonstrated that

the most effective development of learning spaces occurred when the teachers enabled the students to negotiate and cooperate in the development of those spaces—a central element of effective socially-critical pedagogy and SSP (see Chap. 2).

On the other hand, Karen taught within the most unique learning spaces of all of the schools: a classroom within the grounds of the East Valley Nature Park (EVNP). Although Karen's expertise was in Information and Communication Technology (ICT) education, she incorporated a wide range of exciting and unusual outdoor and real life learning experiences which she made possible by utilising all of the resources of the nature park. These resources included the 'experts', or park staff, who were able to assist with the design and implementation of appropriate and authentic learning experiences within all environments of the park. In other words, the diverse learning spaces of the nature park enabled Karen to implement a socially-critical pedagogy because Karen chose to make use of all the opportunities that those learning spaces offered.

The teachers' practices suggested that neither the provision, nor the lack, of learning spaces conducive to the requirements of SSP could predict the willingness or ability of a teacher to implement SSP through a socially-critical pedagogy. In addition, there was anecdotal evidence that certain learning spaces could significantly constrain a teacher's ability to do their work. This was most clearly indicated by Karen's reports of the teachers who accompanied their students to EVNP. Karen observed that most of her colleagues found these learning spaces to be "extremely threatening" due to "the fact that we even just walk out the front gate…the fact that we're here in this environment". She reported that those teachers were not only unable to cope with learning outside the school, but were also particularly concerned about the lack of facilities such as four-walled classrooms and bells to indicate lesson times. For those teachers, the learning spaces provided by EVNP constrained their ability to implement almost any pedagogy, not just the socially-critical pedagogy advocated by SSP. Karen, on the other hand, considered the well-established socially-critical pedagogical routine that she had developed at EVNP, her usual working environment, as "this is just an assumed part of our education". This supported the notion that the teachers defined their practices by the well-established routines they had developed in their most familiar learning spaces, and that the "teachers' fear of launching into the unknown" (Trautmann and MacKinster 2005, p. 1) often rendered such well-established teaching practices difficult to change.

However, at Mountain Primary School, the presence of some schoolyard facilities did encourage some of the teachers to move away from a strictly vocational/neo-classical pedagogy. For example, one teacher allowed Prep students to explore and test their newly developed mathematical skills by measuring such things as chicken legs and water weeds in the kitchen garden. The constant stream of questions from the students and the freedom they felt to interact with others as they moved around the learning space ensured that learning from this lesson was significantly broader than a single mathematical concept. The teacher commented that her use of the kitchen garden for this activity resulted from her observation that the students enjoyed the experience of learning in a different environment. The use of

this learning space facilitated a degree of pedagogical diversity, as both the teacher and the students responded to their physical surroundings.

7.1.3 Learning Spaces, Teachers' Practices and Rhetoric–Reality Gaps

SSP was not intended to be undertaken only by those schools with extensive facilities or expansive grounds, or by those intending to re-build. SSP encouraged all school communities to work collaboratively with their students to not only identify potential new learning spaces, but most importantly, to also transform the way in which the teachers and the students interacted within any learning space. As identified by the teachers, the socially-critical pedagogy embraced by SSP required both the students and the teachers to not only re-define their roles in the learning process, but to also re-define what constituted a learning space. In light of this, it was reasonable to expect that rhetoric–reality gaps in the implementation of SSP indicated that the teachers were unable to re-define their practices in these ways. However, for these teachers, the role of learning spaces was not universally significant in the development of the rhetoric–reality gaps in the implementation of SSP.

The teachers' practices indicated that, contrary to the school principals' expectations, the provision of new and/or different types of learning spaces alone did not necessarily facilitate the implementation of a socially-critical pedagogy. Irrespective of the learning spaces available to a teacher, it was aspects of a teachers' agency that determined whether or not they successfully enacted a socially-critical pedagogy. Although learning spaces were important in assisting a teacher to practice in a particular way, they did not determine those practices. In addition, and in line with Giddens' notion of the duality of structure and agency, the teachers' practices influenced the design and/or utility of the learning spaces, irrespective of the teachers' preferred pedagogy. For example, the long rows of perfectly aligned desks in Lisa's classroom not only reflected her preference for students to remain silent and obediently attentive to her instruction at the front of the class, but also prevented students from interacting with each other, sharing ideas or working together in groups. This classroom was organised by Lisa to facilitate her vocational/neo-classical pedagogy, and as such, discouraged activities that fell outside that pedagogy. In contrast, the ever-changing layout of Cathy's classroom reflected the ideals of the socially-critical pedagogy advocated by SSP. Cathy's preference for a socially-critical pedagogy meant that she encouraged her students to actively participate in structuring their activities, and in so doing, to identify and develop learning spaces that addressed their needs. The teachers' use of learning spaces in the implementation of SSP suggested that neither the provision, nor the lack, of the type of learning spaces perceived to be conducive to the requirements of SSP could predict the willingness or ability of the teachers to implement the program through a socially-critical pedagogy. Thus, the rhetoric–reality gaps in the implementation of SSP could not be

attributed to the learning spaces in which the teachers and the students were required to work. However, the rhetoric of the teachers suggested that their interaction with different learning spaces was, in part, influenced by both routine and time.

7.2 Routine and Time

In order to effectively implement SSP, the teachers were required to establish a variety of cooperative and collaborative relationships with other educators, their students and the wider school community. In other words, SSP required the teachers to establish a pedagogy, or a routine of practice, most conducive to providing socially-critical learning opportunities. For many of the teachers, this meant changing their previously well-established daily routine. The inability of teachers to achieve this change created rhetoric–reality gaps in the implementation of SSP.

Routines are unquestionably an essential part of daily life. As Giddens (1976) pointed out, routines, incorporating both established institutional processes and social customs and traditions, enable people to non-consciously act in ways that comply with social norms. Thus, each of the teacher's routine, at least in part, reflected their knowledge of the social norms associated with their work environment. The principals hoped that, by changing these social norms through the introduction of a new curriculum and new learning spaces, the teachers would be prompted, or motivated, to adjust their daily routines.

The belief that altering the teachers' routines was a potentially difficult task was held by the principals and teachers alike. Philip described "change" as "something that's very hard to do" due to well-established teaching routines: "some [of the teachers] are very regimented in the way they like going about things" and that as a result, "curriculum development hasn't changed in an eon". Fran suggested that well-established routines made changing pedagogy to be "especially challenging for teachers who have taught in the same classroom in the same way for twelve years or so", because routines act to maintain the status-quo. She agreed with the principals' assumptions that a significant change in the work environment might provide the much needed impetus for change, by motivating and thereby enabling the teachers to develop new routines or pedagogies. However, the development of the rhetoric–reality gaps in the implementation of SSP indicated that neither mandating a new curriculum (see Sect. 6.2.2), nor providing new learning spaces (see Sect. 7.1.1) motivated or enabled some of the teachers to alter their existing routines. Therefore, in order to better understand rhetoric–reality gaps in the implementation of SSP, it was important to investigate the pedagogies, as routines of practice, of the teachers. The teachers tended to describe their pedagogy as either a routine defined by a strict adherence to time, or a routine defined by a flexible approach to time.

The pedagogy that incorporated the strictest adherence to time was that practiced by Elizabeth. Time was central to Elizabeth's work, both in terms of her interpretation and implementation of SSP. She described the educational outcomes of SSP as

"not a 9 to 4 concept" but "a 24 hour concept". This description was not inaccurate, but it nevertheless highlighted Elizabeth's propensity to establish meaning founded on the basis of time. Elizabeth's description of her efforts to implement SSP reflected a well-established and precisely timed schedule for waste management. Waste management incorporated a timetabled series of tasks to be completed by the students, based on the need to distribute and collect different types of bins from different areas of the school at specific times each week. Each task was timed, to ensure that it fitted precisely into Elizabeth's daily routine. She stated that "it's a huge task" to maintain such a routine, and that "it has to be well organised, otherwise it would really fall in a heap very quickly". Elizabeth's approach to SSP highlighted her preference for a well organised, and therefore predictable, work environment.

Irrespective of Elizabeth's pedagogical preferences, her classroom practices provided valuable insights into the potential of routines to influence educational rhetoric–reality gaps. Elizabeth initially developed the waste-management routine, in response to her previous principal's request, to enable Mountain Primary School to satisfy the SSP requirements for achieving five-star accreditation. Elizabeth stated that "I wouldn't have chosen to [do this as] it's a huge task" and described the organisational and time demands of the waste management routine as onerous: "logistically it's full on". These comments indicated that Elizabeth had developed her routine only because of the structural influence of the hierarchical management system of her work environment. Despite this, Elizabeth had chosen not to modify or abandon this routine even after the arrival of a new principal meant that SSP was no longer a school priority. In other words, there was a point in time at which Elizabeth considered it easier to maintain this difficult, but well-established, routine than to change it: the routine had become "institutionalized" (Fullan 2007, p. 65). Elizabeth's desire for a well-structured and predictable work environment supported by practiced daily routines outweighed her frustration or dislike of those same routines.

Elizabeth's case highlighted the effect of the strategy of establishing a new routine of practice in order to influence long term change. This strategy has been an important component of many social policy campaigns. Campaigns that attempt to provide information to encourage people to act in a particular manner are often not as successful as those which concentrate on getting the desired behaviours established, then explain why, as evidenced by the success of recent campaigns to reduce household water use in drought stricken Victoria (Kollmuss and Agyeman 2002). However, Elizabeth's experience of trying to alter behaviour led her to a different understanding of this strategy. Elizabeth candidly assessed the effect of her waste management routine as a strategy for behavioural change as poor. She recognised that simply telling people (in this case, the students) to follow a routine, especially one which had been enforced from a higher authority (a teacher), did not ensure behavioural change. She noted that her efforts to reduce rubbish and improve the management of waste within the school had not been as effective as she had expected, and was reticent to introduce new or improved rules or policies: "you wouldn't just introduce it because it wouldn't work". She believed that a higher level of compliance with the rubbish protocols within the school would require

"more education…I think you really need to educate first". This suggested that Elizabeth considered things such as increased awareness as essential in establishing a new behavioural routine, and supported the notion that a change in teaching or learning "presupposes that both teachers and students share a common understanding of the new patterns of behaviour" (Gynnild 2002, p. 301). Similarly, Elizabeth recognised the role of motivation in changing behaviour, explaining that that was why she had introduced the "golden wheelie bin award…for the class that has got the lowest amount of waste" and that "each week every child with a waste free lunch gets a chance to win a prize".

The motivating factors (or possible sanctions; see Sect. 3.10), other than the principal's directions, that enabled Elizabeth to alter her previous routine in order to accommodate the waste-management schedule were not clear. It was evident however, that Elizabeth maintained a routine which was not only difficult and unpleasant to continue, but which also addressed a program no longer considered a priority by her school. This suggested that she did not enjoy change, and that, in line with Giddens' understanding of unconscious human motivation (see Sect. 3.9), she found ontological security through the maintenance of a well-organised and therefore predictable routine. Elizabeth's case demonstrated that for many people the reality of a well-established routine, even if it is less than ideal, is easier to maintain than to change. This highlighted the potential of routines to facilitate the development of educational rhetoric–reality gaps.

Similarly, the presence of a school bell strongly influenced the development of a strict time-directed daily routine for many of the teachers. For example, the shared 'recycle, re-use, reduce' lesson directed by Anita and Robyn at East Valley Primary School highlighted these teachers' desire to fit a particular set of learning activities into a time slot defined by the bell. Many of their students were obviously frustrated when they were not allowed to complete the tasks that had been set. Similarly, many of the students obviously rushed to complete a task rather than attempt to do their best work. In addition, Anita and Robyn completed certain aspects of tasks for the slower students in order to save time. It was not clear that the students successfully achieved the learning outcomes of the lesson identified by Anita and Robyn, because both the students and the teachers seemed unduly focused on time. In other words, Anita and Robyn not only directed the learning outcomes and learning activities for this lesson, but also the time in which it would take for the students to effectively master these outcomes. In addition, Anita noted that the classroom components of the implementation of SSP at East Valley Primary School had been timetabled to be undertaken at specific times: "the decision was made that we'd do sustainability in terms 3 and 4" as discrete biennial learning modules. This segregated SSP from the rest of the school curriculum, and effectively precluded the incorporation of sustainability ideals into the daily routine of the teachers and the students. This highlighted Giddens' notion of a duality between structure and agency, where the vocational/neo-classical approach to SSP was shaped, in part, by the timetabling of time-restricted learning activities which in turn, influenced the type of pedagogy most readily implemented (Giddens 1984).

The socially-critical pedagogy advocated by SSP was most readily implemented by the teachers, such as Karen and Cathy, who had a flexible approach to time as part of their usual routine of practice. This flexible approach also indicated that these teachers were more amenable to change. Unlike Elizabeth, Cathy and Karen both described their approach to SSP in terms of an open or negotiable timetable. Cathy for example, stated that she would happily abandon an entire learning program if the students were demonstrating enthusiasm for an alternative activity that offered equivalent learning opportunities. She noted that this approach ensured that "there's something new all the time, and I think that's what the beauty of it [SSP] is, things crop up all the time". In contrast to Elizabeth, Cathy indicated that such an approach was an essential contributor to her ontological security, stating that: "I couldn't do the same thing over and over and over and over again…I think I'd stagnate if I had to do the same thing over and over again". Not only did she indicate that a flexible routine "keeps life interesting" and "keeps me fresh", but that this was also essential for providing the best learning environment for her students:

> we [the teachers] have to be motivated to get the kids motivated, if we're not really excited about doing something, how can we make the kids excited about doing it, and I can't see that you [a teacher] can get excited about something that you've done twenty times before.

The most flexible attitude towards time, however, was demonstrated by Karen. At EVNP, Karen immersed herself and her students in the environmental realities of the out-of-school setting, stating that the "timetable is thrown in the wind, we don't have bells, we don't have loud speakers…I encourage children to work to their own time". Karen understood that the timetabled restrictions of teacher-directed learning was not an effective approach. Within the time that the students were present at the park, Karen provided support and guidance for the students to participate in the activities, or learning opportunities, in which they were most interested. As many of those opportunities arose from unexpected invitations or events within the park, they could not be predicted or timetabled. Similarly, Karen accepted that the learning from such opportunities could not be predicted or timetabled. Karen's ability to accept a flexible and dynamic timetable enabled her students to work collaboratively with each other and a range of people from the local community. The students' ability to take advantage of interesting and authentic learning opportunities as they arose ensured that they were learning within a socially-critical environment.

As discussed in relation to learning space (see Sect. 7.1), Karen reported that many of her colleagues who accompanied their students to EVNP found the learning space "extremely threatening", particularly due to the lack of facilities for organising time. Karen believed that most of those teachers sought a consistent and predictable work environment, and found the lack of school bells and the lack of times for specific forms of learning to be quite frightening. In other words, for some of the teachers, the physical aspects of a learning environment assisted them to undertake a routine dependent on organising time. Lisa was one of those teachers.

Lisa's perfectly organised classroom reflected her pre-planned pedagogy which, like Elizabeth's waste-management routine, was delivered in precisely timed

portions. However, when asked what prevented her from implementing the socially-critical pedagogy that she recognised as essential for achieving SSP goals, Lisa stated “I think probably time”. She explained that she found it difficult to organise her time because “there’s always something going on” which causes many “general interruptions across the day”. She explained that “trying to find those ways to get around it [interruptions]…can be a lot of organisation and management”. Lisa believed that the only way in which to reduce the pressure of attempting to teach so many programs was to “integrate [learning outcomes] as much as possible”. This answer was consistent with comments from all of the teachers, irrespective of their chosen pedagogy, that insufficient time, often due to an overcrowded curriculum and numerous special school programs, constrained their ability to improve or change their classroom practices. This was supported by the suggestion that “environmental education theory, as it is now, is not sufficiently grounded in teachers’ experiences and in what they feel schools can do or what the school day is really like” (Robertson and Krugly-Smolska 1997, p. 323). Cathy for example, suggested that implementing SSP through a socially-critical pedagogy required her to establish and maintain collaborative relationships with people and organisations outside the school. This was not only the most difficult component of her work, but also required a significant investment in time: “time is definitely the killer—it really is”. Similarly, Fran reported that her colleagues who were most resistant to introducing a socially-critical pedagogy actually feared the amount of time that they perceived such a change would require: “it’s a fear rather probably than a resistance I think, a fear that they don’t have time”.

However, time is often a reason cited by teachers for not undertaking new practices (e.g. Barrett 2007; Palmer 1998; Tomlins and Froud 1994). The perfunctory manner in which time was identified as a problem by the teachers implied that such complaints were almost unconscious responses to an expectation, that is, a perceived social norm that teachers were busy people who were always stretched for time. David explained the reluctance of some teachers to participate in some programs as “teachers are all busy and there’s always a pile of stuff we’re not getting done”. Lisa suggested that identifying time as a constraining factor was an “excuse” to explain ineffective or irrelevant aspects of a teaching routine, stating that change required “just re-organising the way things are structured or getting rid of things that aren’t needed” and “leaving things behind that you don’t need to be doing any more…that are blocking up the time, blocking up the space”. Similarly, David noted that the choice to practice a socially-critical pedagogy could actually reduce the work load of a teacher by “empowering kids” with “authentic learning” experiences. He described a vocational/neo-classical approach as “too much work, we’re busy enough as it is…we [the teachers] don’t need this extra [planning] work when you’ve got kids who can do it…and parents and community”. He noted that “allowing the kids to have some input” is not only “empowering to kids” and provides opportunities for “authentic learning”, but it also reduces the planning or preparation work of a teacher by incorporating aspects of these into the learning process.

The teachers’ routines of practice reflected different ways in which they related to time, and different ways in which they utilised learning spaces to implement a

pedagogy that supported their relationship with time. For some of the teachers, in the context of implementing SSP, these relationships resulted in a rhetoric–reality gap. However, that is not to say that routines should not be part of a teacher's practice. Routines are an essential part of every teacher's practice. Classroom routines, for example, ensure that the students know how to handle normal daily occurrences: housekeeping routines enable the students to manage the physical components of a classroom, such as where to locate different learning materials; management routines assist the students to manage certain interactions, such as how to form a group; learning routines assist the students to approach learning in specific ways, such as reading quietly before writing an answer; and discourse routines provide rules for verbal exchange, such as raising a hand in order to ask the teacher a question and listening quietly while others talk (Leinhardt and Greeno 1986; Leinhardt et al. 1987). Such routines define the social norms of a classroom and ensure that the students understand a teacher's expectations (Burden 2003; Newsom 2001; Savage 1999). They therefore contribute to the students' feelings of ontological security, and reduce the need for teachers to micro manage every aspect of a classroom.

The difference between the use of a vocational/neo-classical pedagogy by teachers such as Lisa and Elizabeth, and the use of a socially-critical pedagogy by Cathy and Karen, was not the presence or absence of these types of routines, but the effect of routines on what might be considered "patterns of thinking", that is, the manner in which routines "support and scaffold" specific patterns of thinking (Ritchhart et al. 2006, p. 1). Both Cathy and Karen had taught their students to embrace patterns of thinking which incorporated the use of negotiation, cooperation and collaborative endeavour in order to identify: interests that may or may not be identical to those of their peers; ways in which to acquire information about those interests; and engaging ways in which to demonstrate their learning. In other words, many of the classroom routines established by Cathy and Karen were not a reflection of "ordinariness, habit and ritual" but "practices crafted to achieve specific ends" (Ritchhart et al. 2006, p. 5).

In the same way that the teachers used routines to establish the students' feelings of ontological security, it is easy to understand that routines were instrumental in assisting the teachers to establish ontological security for themselves. The educational rhetoric–reality gaps in the implementation of SSP undoubtedly reflected the relationship between a teacher's feeling of ontological security and the practice they were required to implement. The socially-critical pedagogy advocated by SSP was most successfully implemented by the teachers for whom a flexible approach to time was part of their usual routine of practice. The teachers who practiced routines heavily dependent on time not only found the socially-critical approach to SSP unfamiliar, but also seemed to consider the very notion of change to be challenging. Similarly, a socially-critical pedagogy was most successfully implemented by the teachers who designed routines that enabled the students to embrace negotiation, collaboration and cooperative learning as part of their normal learning routine. The teachers who taught to routines heavily dependent on the continuous provision of directions to their students could not implement a socially-critical approach. The practices of those teachers were most likely to represent a rhetoric–reality gap.

However, that is not to say that those teachers were incapable of change. As indicated by the development of the waste-management routine by Elizabeth, appropriate motivation (or sanction) could enable teachers to alter (or maintain) well-established routines.

Although this discussion has focused on the need for the teachers to alter their pedagogical routines, it is important to note that the implementation of SSP also required the teachers to alter routines related to the subjects, or content, that they routinely taught. David acknowledged that these routines were particularly influential in some teachers' ability, or willingness, to embrace SSP at Ocean Primary School:

> it's a common understanding [that every primary school teacher teaches maths]…there'd be no one here who wouldn't teach maths…some teachers might teach it less, or less enthusiastically…but no one would think of not doing it…and if they wanted help they'd get it…they'd maybe collaborate with other teachers and they'd maybe use those worksheets so that they can have a cheat sheet and cover their misunderstanding or not understanding.

In other words, David acknowledged that many of the teachers at Ocean Primary School felt unable to incorporate SSP into their teaching routine, not just because of the requirement to enact a socially-critical pedagogy, but also because the ideals and content of environmental, or sustainability, education were not part of their usual teaching routine.

Although the well-established routines employed by the teachers undoubtedly contributed to the development of the rhetoric–reality gaps during the implementation of SSP, they did not fully explain such gaps. In order to better understand such rhetoric–reality gaps it was essential to understand the other ontological elements that significantly constrained the teachers' ability to embrace change.

7.3 Other Resources

In order to effectively implement SSP through a socially-critical pedagogy, the teachers were required to: re-define their roles in the learning process; re-define what constituted a learning space; establish a variety of cooperative and collaborative relationships with other educators, students and the wider school community; and in general, establish a routine of practice most conducive to providing socially-critical learning opportunities. The presence of rhetoric–reality gaps in the implementation of SSP indicated that many of the teachers were unable to do these. Most of these teachers suggested that their inability to implement a socially-critical pedagogy was due, in part, to the lack of certain resources—a reason often offered by the teachers to justify the lack of environmental education in schools (e.g. Barrett 2007; Palmer 1998; Tomlins and Froud 1994). The role of resources in the development of rhetoric-reality gaps is discussed in terms of: allocative resources, or physical teaching and learning aids such as science equipment (Sect. 7.3.1); and authoritative resources, such as the expertise of others (Sect. 7.3.2). Several of the teachers attributed the lack of these types of resources to insufficient funding.

7.3.1 Allocative Resources

According to Giddens, an unequal distribution of allocative resources, such as equipment used for certain teaching and learning activities, can contribute to unequal human relationships, which in turn can influence a teacher's capacity to act in a particular manner (Giddens 1979; Turner 2003). Several of the teachers commented on their perception of the inequality of the state (Victorian Government) education system in terms of allocative resources. Andrew, for example, lamented that "resources are our biggest issue out here. Other schools have things like microscopes…we don't have the opportunity to use those kinds of things". Other teachers considered that the lack of allocative resources contributed to them having insufficient time to plan and organise more effective teaching practices. Simon for example, noted that he would benefit from access to some "ultra organised cupboards with lots of stuff in them" stating that "a lot of my time in science is spent getting stuff together". However, the lack of these types of allocative resources alone did not adequately explain the rhetoric–reality gaps that developed during the implementation of SSP. Even Elizabeth considered such resources unrelated to the implementation of a socially-critical pedagogy, stating that the potential for the lack of these resources to inhibit a teacher's practice: "would depend on what your goals were for teaching…if it was sharing of information and sharing of learning, and designing student-centred classroom tasks, no it wouldn't inhibit it at all". Similarly, David circumvented a lack of physical resources for certain projects through the implementation of a socially-critical approach which encouraged the students to find ways of making their own equipment, negotiating for assistance, or raising funds to purchase necessary materials for SSP-related projects. He believed that this was a valuable approach which helped the students to develop a critical awareness of the real world, stating that "we don't want the kids to think everything's laid on for them…they've got to run what's going on out there". Elizabeth summarised this ideal: "the whole idea about sustainability in environmental education is that you re-use and use, and use well the resources you've got, not go out and pluck new resources". In other words, the degree to which any teacher had access to specific allocative resources neither enabled, nor constrained, their ability to implement SSP through a socially-critical pedagogy. Most of the teachers however, suggested that the most critical resources for implementing SSP were not physical resources, but included the knowledge and skills, or expertise, of others. These were authoritative resources.

7.3.2 Authoritative Resources

According to Giddens, non-physical, or authoritative resources, relate to an individual's capacity to influence, direct or organise various aspects of social interaction, such as time and space (as discussed earlier; see Sects. 7.1 and 7.2) or

association (Giddens 1979; Turner 2003). The notion that people were valuable resources, and that collaborative teaching and learning provided access to, for example, the expertise of others, was central to effectively implementing SSP through a socially-critical pedagogy. Such expertise was sought to assist the teachers to improve their pedagogy and assist the students to improve their learning. The former related to perceived level of teacher support, or association, as discussed in Sect. 6.5.1 (Taylor 2003; Arts 2000), while the latter, discussed here, related to resources that the students could access. In the context of SSP, the students accessed such resources only when the teachers assisted them to participate in collaborative, community-based and multi-age learning experiences. However, despite the fact that the teachers indicated a good understanding of the ability of a socially-critical pedagogy to provide such resources for their students, few fully embraced such an approach.

The teachers who most effectively embraced a collaborative teaching and learning environment, Karen and Cathy for example, did not believe that their students required additional allocative or authoritative resources. Karen's socially-critical approach to SSP centred on collaborative efforts between the students and the staff at EVNP. The students undertook a wide range of caretaker and scientific roles through working cooperatively and collaboratively with EVNP personnel, members of the public and various government agencies. As these students were participating in real world activities, the experts with whom they worked provided not just equipment, but also specialised knowledge, ideas and opinions. Karen used simple learning activities that were not dependent on physical resources to assist the students to maintain these relationships, including the establishment of a postal network between the students and the EVNP personnel. This network facilitated an ongoing exchange of ideas and information between visits to EVNP. Cathy also assisted the students to establish a range of collaborative learning relationships. In order to effectively develop a student-initiated bird breeding program, for example, Cathy assisted the students to seek help from various educators and scientists with specialist biological knowledge and nest box building expertise. Although the students applied for a grant in order to purchase materials for making nesting boxes, the project could not have progressed without the sharing of knowledge between the students and several bird experts. It was evident to both Karen and Cathy that the learning opportunities provided by these types of collaborative experiences far outweighed the benefits that just additional physical resources could achieve.

Some of the teachers used guest educators as an initial step in moving away from a vocational/neo-classical pedagogy. Andrew and Lisa for example, asked field educators associated with a local water authority to direct certain science lessons, stating that: "we try and use these as much as possible, as much as we can, [be]cause obviously they know more about water than we do" (Andrew). Similarly, Julia sought assistance from the science teaching staff at a neighbouring secondary school to enable her students to experience aspects of science she was not confident to teach. These experiences represented a significant change for the teachers who, as eloquently expressed by Philip, previously believed "I am the font of all knowledge and I spew forth".

However, other teachers identified the lack of student resources as a contributing factor in their inability to implement SSP. Andrew, for example, explained that "we have small classes…to book a bus to go somewhere…it's a high expense to the kids". He stated that, with additional money "the resources that we could then use… take kids here, take kids there". Although Andrew noted that "it's terrific that we are in a rural situation…we do have the river to go and visit…a river at the back door" he sought money in order to transport students to other locations with resources such as "bird habitats", or facilities for "water-based activities [such as] water testing and pond life". Andrew did not view a socially-critical pedagogy as a way in which to engage students with learning within the school and surrounding environments. This not only suggested that Andrew held specific ideas about what constituted an appropriate space for learning (see Sect. 7.1) but that he also used the lack of money to justify his inability to fully implement SSP.

Similarly, Elizabeth stated that the lack of funds at Mountain Primary School meant that she was unable to provide opportunities for the students to participate in certain activities such as "research in a true scientific sort of way, or…hands-on activities that involved excursions, or paid guest speakers". This comment not only suggested that Elizabeth did not understand that science was first and foremost "a process of generating information" (Foulds and Rowe 1996, p. 16), but also provided valuable insights into the teachers' complaints regarding their inability to expose the students to the expertise of others. Elizabeth had almost unlimited access to the school kitchen garden managed by an expert horticultural manager, and nearby state parks with dedicated education officers. Her belief that opportunities for the students to learn from others required "paid guest speakers" was shared by other teachers, including for example David, who wanted additional funds in order "to buy in people". These comments suggested an unwillingness to assist the students to negotiate and collaborate with others in order to establish relationships, from which learning from others would occur naturally. In other words, these teachers viewed funding as a means through which to provide resources for the students, in terms of access to people, without having to significantly adjust their usual pedagogical routines. Money was viewed by some of the teachers as a resource that provided them with the power to avoid change.

It is important to note that several other teachers indicated that the lack of resources, in terms of people who "are expert at things" (Lisa), contributed to their difficulty in implementing SSP, but did not relate this to financial shortfalls. Lisa, for example, explained that South Bay Primary School had been attempting to "draw more parents in for different roles" and "call on different people…to do different things". Although these efforts represented attempts to increase the level of community involvement in the school, Lisa's comments indicated that this fell short of offering the collaborative learning opportunities for students that SSP intended. She explained that the school was actively "encouraging other people to feel welcome to come into the school" because "a lot of new parents that come in feel intimidated or pressured not to be a part of it [the parent body]…it's the same ten parents that do it…a small community [with] quite clicky groups". Lisa also explained that certain parents within this group had shouldered the responsibility

for the design and construction of outdoor learning areas for the implementation of SSP, including the "veggie garden" and the "frog pond", and that now it was time for "different parents" to contribute. In other words, the school viewed the community as a resource for the development of outdoor learning spaces*for* the students, rather than *with* the students.

Thus, despite the perceived disadvantages of an apparent lack of resources identified by some of the teachers, access to additional resources was not essential for implementing SSP. The teachers who most effectively implemented SSP, like Karen and Cathy, embraced a socially-critical pedagogy as a way in which to establish cooperative and collaborative relationships which provided opportunities for the students to learn through participation, that is, through the sharing of ideas and knowledge. These teachers did not rely on purchasing power to acquire people as resources, but assisted the students to explore different ways in which to access the people, or knowledge, or skills, most suited to their interests and chosen projects. In contrast, the teachers who tried to implement SSP through a vocational/neo-classical pedagogy, like Elizabeth and Lisa, failed to assist or encourage the students to access the expertise of any other people, either from within the school or the local community.

The teachers' responses to the requirement to implement SSP provided valuable insights into the complex relationship between authoritative and allocative resources, and how a teacher's perception of the resources available to them will influence their students' learning experiences. Implementation of a socially-critical pedagogy, by a teacher, meant that students gained opportunities to access a variety of both allocative and authoritative resources, which increased their confidence in building relationships, and therefore assisted them to create further opportunities to access additional resources. This highlighted Giddens' notion of a duality between structure and agency, where the socially-critical pedagogy experienced by the students, was shaped by the resources accessed, and in turn, influenced the types of resources sought (Giddens 1984). In all cases, the teachers held the authority to give their students access to resources through implementing SSP, indicating that access to resources for the students neither constrained, nor enabled, the implementation of a socially-critical pedagogy by the teachers. In other words, the rhetoric–reality gaps that developed during the implementation of SSP did not simply reflect the teachers' inability to access appropriate resources for their students.

7.4 Duality of Structure and Agency and Educational Rhetoric–Reality Gaps

Analysis of the rhetoric and the reality of the teachers who were required to implement SSP and a socially-critical pedagogy demonstrated the effect of the duality of structure and agency (Giddens 1984) on those teachers' practices, and highlighted some of the causes of the educational rhetoric–reality gaps that developed as a result of the implementation of this program.

The teachers understood both the environmental and educational goals of SSP. The teachers' ideas regarding the potential for SSP to influence their own lives as well as the lives of their students and the broader school community demonstrated their understanding of the future-oriented and socially-transformative goals of SSP, and that it addressed purposes of education best described as democratic equality (Labaree 1997). The principals shared these understandings, but indicated that their decision to implement SSP was also based on its potential to operate as a vehicle for pedagogical change. This highlighted the way in which different structural elements, in this instance a 'structured set', could represent different things to different people. In this instance, the principals used their hierarchical position to define certain aspects, or rules, of the environment in which the teachers worked. Irrespective of directions given by the principals and the rhetoric provided by SSP documents, the teachers' practices indicated that they approached the implementation of SSP in one of two ways: (i) the teachers modified and adjusted the structural components of their working environment in order to enable them to engage their students through a socially-critical pedagogy, or; (ii) the teachers modified and adjusted the implementation of SSP to suit the existing structural components of their working environment.

Cathy, for example, did not permit the physical conditions of her work environment to constrain her use of a socially-critical pedagogy. She encouraged the students to determine how to best utilise existing resources, and to identify and use new and different learning spaces when appropriate. Cathy also adopted a flexible approach to other aspects of her working environment, such as time. She indicated that she would only allow a specific curriculum to influence her teaching if the students were engaged and learning, and would happily extend or forego planned curriculum-based activities in response to the students' learning needs and interests. Similarly, Karen encouraged the students to take responsibility for their time at EVNP, not just in terms of planning their usual daily activities, but most importantly, in relation to identifying and creating opportunities to participate in, and learn from, real life experiences. In other words, both Cathy and Karen established a routine which embraced flexibility, openness to the students' needs and interests, and a willingness to engage with the learning opportunities provided by real life experiences as they arose. Such routines were not defined by structured sets, rules or physical resources. Such routines established a social norm in which the students attended school with the expectation that they were responsible for learning in an environment which incorporated a certain level of negotiation, collaboration and cooperation. These routines embraced the notion that new interests and opportunities, or changes, were an integral component of life and learning and school.

In contrast, teachers such as Lisa and Elizabeth permitted various structural elements of their work environment, particularly the physical aspects of their classroom learning spaces and the use of time, to define their pedagogy. Lisa and Elizabeth established routines in which curriculum-directed learning occurred through planned activities undertaken in set ways within certain learning spaces at specific times. Such routines established a social norm in which the students attended school with the expectation that their teachers had determined what they

would learn, how they would learn it, how long they needed to learn it, and where that learning would take place. The ability to maintain such a routine demanded that any additional or different activities were planned and completed within an allocated time. By definition, the social norm established by these routines did not encourage or embrace change, because even a small change had the potential to impact not only on the plans for a single day, but also for an entire school term. Both Lisa and Elizabeth attempted to implement SSP through their existing routines.

In other words, the implementation of SSP demonstrated that, once established, a teacher's routine of practice effectively operated as a self-supporting, or self-fulfilling, system. Each routine defined the manner in which the teachers and the students interacted with each other and the world while at school. Each routine defined the social norms for learning and teaching at school, which, when practiced, defined that routine. This is the essence of Giddens' notion of the duality of structure and agency (1984).

Although the rhetoric–reality gaps in the implementation of SSP were formed by the practice of routines which demonstrated the way in which structure and agency operated as a duality, that duality of structure and agency did not cause these rhetoric–reality gaps. Analysis of the rhetoric and reality of the implementation of SSP by the teachers showed that neither the presence, nor the absence, of ontological elements such as new and different learning spaces, physical resources, perceived principal and peer support, or even time, predicted whether or not the teachers implemented SSP through a socially-critical pedagogy: the structural features of the school work environment did not universally constrain, or enable, the teachers to implement a socially-critical pedagogy. However, the teachers' stories indicated that their beliefs about the environment, and beliefs about education influenced their perception of SSP goals, whether or not they embraced SSP principles in their own lives, and the manner in which they chose to implement SSP in their classrooms. Thus, the development of the educational rhetoric–reality gaps, in the context of the implementation of SSP, was an issue of teacher agency.

Thus, in order to identify a possible intervention point, or ontological element, through which activities and/or policies designed to reduce the development of educational rhetoric–reality gaps could be introduced into an institutional environment in which teachers work, it was essential to identify the critical aspects of agency that influenced the teachers' pedagogical decisions. Analysis of the teachers' agency, most particularly in terms of the teachers' environmental ideology and educational ideology, and the relationship between ideology and structuration ontological elements is discussed in Chap. 8.

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