Resistance, re-articulation and realisation:
An analysis of school-level implementation of Australian National Curricula

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BACKGROUND
In April 1989 the Australian Education Council (AEC), which was comprised of State, Territory and Commonwealth Ministers of Education, met in Hobart to review school curricula (Curriculum Corporation, 1994a). From this meeting, it was proposed that a national, collaborative approach to school-level curriculum should be implemented to 'rationalise' curriculum development. In the vein of economic rationalism, it was argued that, in such times of economic hardship, a coordinated approach would maximise the use of scarce curriculum resources (Boston, 1994, p 43). And, reflecting an awareness of some of the needs of contemporary Australia, in which there is high interstate mobility, it was also argued that this approach would lead to a minimisation of 'unnecessary' differences between State-based curricula (Boston, 1994, p 43). From this meeting, the AEC endorsed ten common and agreed national goals for Australian schooling and commissioned the production of National Statements and Profiles for eight Key Learning Areas: Mathematics, English, Science, Technology, The Arts, Health and Physical Education, Studies of Society and Environment, and Languages Other Than English (Curriculum Corporation, 1994a). These national goals for schooling became known as the Hobart Agreement, and these have set in motion the most extensive collaborative curriculum development effort in the history of Australian education.

A National Statement on Mathematics for Australian Schools was the first statement produced, in December 1990. Its purpose was to "provide a framework around which systems and schools may build their mathematics curriculum" (Curriculum Corporation, 1990, p i). Whilst the National Statement seeks to provide a common focus to classroom mathematics curricula, the Profile statement for Mathematics, Mathematics - a curriculum profile for Australian schools (Curriculum Corporation, 1994a), seeks to provide a common framework and language
for reporting student achievement. This document contains descriptive outcome statements for eight progressive achievement levels for each of six different curriculum strands: Number, Space, Measurement, Chance and Data, Algebra and Working Mathematically (Faragher & Mortlock, 1995).

Whilst the National Statements and Profiles have never been endorsed nor rejected at a National level by the AEC (Marsh, 1994), Queensland, as a 'supportive' State, moved ahead with its implementation of the National Curriculum. Its current syllabus, Years 1 to 10 Mathematics (Department of Education, 1987) was considered by the Queensland Department of Education to be consistent with the National Statement and that there was no need to rewrite or modify the State's existing syllabus, as happened in other States. In July 1992, the Queensland State Government launched the National Mathematics Profile as Student Performance Standards in Mathematics for Queensland Schools (SPS), and, during 1993, trialed its use for reporting student achievement in 150 Queensland State Schools (Curriculum Corporation, 1994b).

Following what was considered by the Queensland Department of Education as a successful trial, the Department moved in September 1994 to notify all of the State's primary and secondary schools of the immediate implementation of SPS in Mathematics for all students in years 1 to 8 in 1995. Complaining of a lack of negotiation in the process, the industrial reaction from the Queensland Teachers' Union was swift. Complete work bans were imposed by the Union on any work or professional development relating to SPS until negotiations on a satisfactory time-line for implementation of SPS and implications for teacher workloads were completed.

Early in 1995, agreement was reached between the Department of Education and the Queensland Teachers' Union over the implementation of SPS in Mathematics (QTU Journal, 1995). Under this agreement, SPS in Mathematics would indeed be implemented in years one to eight of all Queensland State Schools, though subject to a number of conditions, including:

∑ implementation of SPS in Mathematics was to commence that year, 1995;
∑ implementation would be 'phased in' over the two year period 1995-1996; In 1995, reporting under SPS in Mathematics would incorporate only three of the six assessment strands (Number, Space, and Measurement); with full reporting in all six strands commencing in 1996;
∑ reporting to parents under the framework would take place only once per year, at the end of the school year;
∑ opportunities for professional development and in-servicing of teachers on SPS in Mathematics would be provided through: the provision of in-service time on a 'student-free' day; 'release' time being made available to classroom teachers for undertaking additional professional development; and the appointment of regional-level SPS advisers and support people; and
∑ "the implementation of SPS should proceed in a manner which minimises any additional workload on teachers" (QTU Journal, 1995; p 11).

It is important to recognise that the negotiations between the Department of Education and the Union that led to this agreement to implement SPS in Mathematics, did not appear to focus significantly on the nature of SPS in Mathematics as a framework for assessment and influence on curriculum. The contestation between the Union and the Department arose from concerns over employee workloads and conditions,
rather than philosophy. It also important to further recognise that the outcomes of these negotiations did not extend to cover the actual mechanisms by which SPS in Mathematics would be implemented within schools. Largely, once the systemic decision to implement SPS in Mathematics had been taken, the responsibility for actually implementing SPS in Mathematics resided at the school-level.

THIS PAPER
This paper is a study of school-level implementation of SPS in Mathematics. By adopting a qualitative/interpretative case study approach, it portrays the unique and complex influences on, and the processes by which a school has implemented SPS in Mathematics. It also presents some of the experiences of the school's teachers and administrators in dealing with this implementation.

THE CASE
"Palmville" State School is a coeducational Queensland state primary school situated in a small rural town located within approximately an hour's drive from the city of Brisbane. With the next closest primary school being at least 20 kilometres away, most of the district's children attend Palmville State School. The school has an enrolment of 230 students, drawn mainly from the town of "Palmville" and its local surrounding farming district. The school has a pre-school class and nine classes from years one to seven, which includes a number of composite (mixed grade) classes. The school staff consists of nine primary classroom teachers and the principal. Whilst the school draws its students locally, the majority of teachers, who were appointed by the Department of Education system to work within the school, travel significant distances to work each day.

Being a Queensland State Primary School, Palmville is part of the State's education system. Importantly, under such arrangements, Palmville State School is just one of many schools within a large and vast State system. Like all other schools in the system, it is an organisational unit that is required to "implement" policies which are the result of decisions made at the system level, beyond the local context. As such, Palmville sees itself as subject to the directives of the Queensland Department of Education, but entitled to the benefits that the State system can provide, for example: regional consultants and support staff, financial support to relieve teachers from their classroom duties to participate in professional development activities.

As explained by the Principal of Palmville State School, the School's management is typical of most of Queensland's State primary schools. The School's Principal, who is accountable to the 'system' for school-level actions, is responsible for a team of teachers, whose main responsibilities in turn focus on classroom teaching and learning, and the well-being of their pupils. As further explained by Palmville's Principal, whilst those in his position must aim to ensure that their schools run efficiently, they also have an important role in ensuring the teachers are enthusiastic, for, as he put it, "we need our teachers to be happy."

Central to the School's philosophy is its belief in the "basics" and the happiness of its children. As expressed by the Principal, "the School's philosophy is just: to make sure that each child reaches their potential, basically; and is happy to come to school and goes home
happy." In its curriculum, the School values reading, writing, calculating and communicating. Moreover, the Principal believes that the School's approach is consistent with the demands and expectations of its parent community. He does not see his role as one involving curriculum leadership or promoting teacher learning, rather he sees himself as an efficient manager of time and resources. He does not value higher study or input from those "scholars" who are out of touch with and do not understand teaching.

In-service
Following the negotiated agreement to implement SPS in Mathematics in all Queensland State Schools in 1995, teachers of Palmville State School started to receive in-depth information about this impending curriculum change. As for all teachers employed by the State, Palmville teachers were issued with their own individual Student Performance Standards in Mathematics documentation. They received details of the assessment framework, its strands, substrands and outcome statements. The Palmville School, like all State schools, was provided with a 'SPS Kit' which was produced by the Department of Education. The kit, which included a video presentation and further print-based documents, addressed issues of implementation that related to SPS in Mathematics. In addition, teachers also had access to other support documents, such as Student Work Samples, to aid them in their 'making SPS happen'.

Aside from the Palmville teachers directly accessing Departmental information on SPS in Mathematics, the Principal, like most State School principals, attended an in-service day with the newly appointed regional advisers, to induct him into the Department's SPS agenda. The Principal then was expected to direct the efficient and effective implementation of SPS within his school. On return to the School, he trained two teachers in SPS in Mathematics and relied on "the ripple effect" (ie., informal peer contact) for the dissemination of SPS information throughout the school.

In addition, throughout the year, like most of the State's teachers, Palmville teachers had the opportunity to attend a number of organised in-service activities that addressed the school-level implementation of SPS in Mathematics. Such activities, organised by the Department of Education, tended to focus on matters such as using the outcome statements to report students' achievements, and developing approaches to collect, organise and store data.

In short, all of the in-service information and activities provided attempted to assist teachers in developing a "correct" understanding and application of SPS in Mathematics. That is, in-service activities, such as those outlined above, sought to transfer to the teachers of Palmville State School in particular, and all State teachers in general, the Department's particular understanding of SPS in Mathematics and plan for its implementation. The Department assumed that its intentions with regard to the SPS in Mathematics curriculum change could be transferred intact to those charged with implementing the changes.

SPS: a second-order change
Like most teachers around the State, the teachers at Palmville State School read the Departmental SPS information and participated in a number of Department in-service activities. From these in-service opportunities, it became clear to the staff of Palmville that SPS in
Mathematics represented a dramatic, discontinuous shift away from traditional practices within the School, a shift that was typical of second-order change (Levy, 1986). For the first time, under SPS in Mathematics, Palmville State School would be required to meet specific assessment and reporting requirements that were determined externally to the School. The problem with this, as perceived by the Palmville staff, was two-fold. First, the Palmville staff perceived the decision to implement SPS in Mathematics as external interference in the professional work of teachers (Mintzberg, 1983). The Principal and many teachers of Palmville State School expressed resentment at the involvement of politicians and academics in teachers' work of assessing their pupils' learning.

Secondly, SPS in Mathematics was to bring into the school a system of assessment that was fundamentally different from current practice and local expectations. As explained by the Principal, "Parents want to see how their child performs in relation to a class average on an end of semester test', an approach to assessment which is already implemented within the School. In contrast to the School's norm-referenced approach to assessment, assessment practices under SPS in Mathematics involved comparing and reporting individual student achievement against the prescribed SPS in Mathematics outcome statements. None of the School's staff reported any previous experience with criterion-referenced systems of assessment, and most expressed concern and uncertainty over the impending change in the paradigm that would inform the assessment practices within the School.

Denial and cynicism

Characteristic of Carnall's (1986) first stage response to change, the staff of Palmville denied the need for the changes associated with SPS in Mathematics and expressed value in their current situation. Recalling their initial response to SPS in Mathematics, following the initial release of detailed information, the teachers and Principal of Palmville State School reported feelings of resentment and dissatisfaction about the impending change. Teachers asked questions such as:

"Why do we need it?"
"What are the benefits anyway?"
"It is just going to be more work"
"Why change"

Moreover, the School's teachers and Principal believed that the School's existing assessment program was adequate in meeting School and parental expectations, and there was no need for change.

Throughout the in-service programs for teachers prepared by Department of Education, the Palmville staff were informed of the 'official' reasons for the Department's supporting of the implementation SPS in Mathematics. These included the following:

SPS will improve teaching and learning
It will make it easier for children who change school by having a common framework for assessment
It will improve reporting to parents.

However, almost all of the teachers from Palmville State School doubted whether SPS would be able to achieve such stated aims. As expressed by
one of the School's teachers, "I still feel it will accomplish little. In fact the whole thing is a joke. ... I want evidence that SPS will be of value to me and the children I teach."

In addition, all staff of Palmville State School, teachers and Principal, were openly cynical about the Government's motives for the impending SPS changes. One teacher believed that the "real" reasons behind the Government's adopting of SPS in Mathematics related to political accountability and popularity:

"It is just another one of a hundred schemes which a government committee pushes into schools so they (the government) can be seen (by the electorate) to be going somewhere."

Further, the Palmville staff did not believe the claims by the Department of Education, as embodied in the implementation agreement, struck with the Queensland Teachers' Union, that the implementation of SPS in Mathematics would have no impact on teachers' workloads. To the teachers of Palmville, it was clear that SPS would require new procedures for collecting, assessing, recording and reporting on student work; and this would require additional work. As one teacher asked rhetorically, "Where will the time come from? I can't drop other things." And as commented by another, "I can see a lot of sleepless nights ahead."

In the main, the teachers of Palmville State School believed that implementing SPS in Mathematics would be detrimental to classroom teaching and learning. Department of Education in-service sessions attended by the teachers, convinced the Palmville staff that SPS in Mathematics would require devoting considerably more time to assessment compared to that allocated under the School's present assessment regime. As one teacher, representing the School's entire staff, put it, "There will be less time to teach. I will be spending more time ticking little boxes rather than teaching those students who need my help." Importantly, assessment was perceived as distinct and separate from teaching and learning. Hence, spending more time on assessment-related tasks, meant less time for teaching and learning activities. Indeed, anger and frustration were commonly expressed emotions in any discussions pertaining to SPS in Mathematics.

Defensive behaviour and abdication of professionalism

Whilst the realisation of the inevitable reality of the impending SPS changes came at different times for different teachers, by May 1995 most of the Palmville teachers displayed behaviours characteristic of Carnall's (1986) second stage of response to change, "defence". About this time, most teachers had accepted that, by the end of the year, despite their existing local modes of assessment, the current demands on their time and their disbelief in the proclaimed benefits of SPS, they would be required to assess and report within the strands of Number, Space and Measurement of the SPS in Mathematics framework. And further, as expressed by the Principal, "Like it or not, their [the School's] task was to work out how to do this." Like in Mintzberg's machine bureaucracy, authority in the Education Department is hierarchical in nature and, as such, schools and teachers knew they would have to produce student reports on a standardised SPS report form at the end of the 1995 school year.

The teachers reported feelings of resentment in being directed not only to report using SPS, a reporting system they neither understood nor could see the benefits of, but to also have to develop the assessment
procedures, tasks, and recording systems that would be necessary to implement SPS in Mathematics within their School. As noted by one teacher: "They [the Department of Education] couldn't come up with a standardised form of testing across the board [to meet the State's expectation of SPS in Mathematics], so they gave it to us. We've got to think of ways to do it!"

Regarding the autonomy given to teachers to develop local mechanisms to implement SPS in Mathematics, the Principal reported that teachers were "constantly floundering". As one teacher noted, the task ascribed to the school-level was too open ended: "We need direction. I expected a clearer understanding from the Department to aid teachers in this area." As indicated in the following statements collected from a number of the Schools' teachers, the task of translating SPS in Mathematics into action was indeed problematic, for the teachers did not share the same understandings of SPS in Mathematics as those who constructed it:

∑"The [SPS in Mathematics] outcome statements are too difficult to understand."
∑"Why can't they write them [the outcome statements] in plain English."
∑"It's so confusing."

As such, the Department of Education received much criticism from the teachers of Palmville State School over its "impossible expectation" and "its inability to plan and communicate what would be required of teachers." When speaking of the impending SPS changes, the Palmville teachers widely used the following words to describe their feelings: despair, confusion, overwhelming, unnecessary, mind-boggling, stress and fatigue.

It was accepted widely within the School that the whole implementation process would be easier and more efficient if the actual SPS mechanism (ie., the assessment tasks and tests, reports, etc) were selected and provided by the Department of Education for implementation. Interestingly, at this point, the staff of Palmville State School, who criticised the Department of Education for their initial interference within school-level matters of assessment, were now calling on the Department to play a greater role in the school-level implementation of SPS in Mathematics. It appeared that amidst the negative feelings of depression and frustration, and the field of defensive behaviours displayed at this point within the change process (Carnall, 1986; Levy 1986), the Palmville staff were prepared to further relinquish control over their work (Mitzenberg, 1983) on this issue of implementing SPS in Mathematics, an issue that they did not support.

Seeking to understand SPS in Mathematics
Out of a prevailing sense of desperation to meet Departmental requirements for reporting, rather than acceptance of the principles of SPS in Mathematics, the staff of Palmville State School sought opportunities to construct a meaningful understanding of the SPS requirements. And, significantly, rather than turning to regional or State levels for support, these opportunities were sought from within the school-level. Regarding regional and Departmental in-service, the Palmville staff had, from quite an early point, dismissed such in-service opportunities as ineffectual. They were perceived as presented inappropriately and merely "pushing the departmental line", rather than meeting the "real" needs of how to implement SPS in Mathematics within individual classrooms.
Stemming from this dissatisfaction with departmentally provided in-service and, as he put it, 'desperation', the Principal approached the Queensland Association of Mathematics Teachers (QAMT) to provide assistance to the School in its task of implementing SPS in Mathematics. Consequently, a single professional development afternoon/evening, provided by the QAMT, was organised by the Principal for the staff of his and other schools of the region. This in-service activity sought to provide to staff:

- A brief overview of the history, organisation, terminology, advantages and disadvantages, and documentation of SPS;
- Familiarity with the strands, substrands, levels and outcomes of SPS, and their application to children's work samples;
- Experiences in different ways of assessing children;
- Opportunities for each participant to design an SPS assessment activity for use in their own classroom;
- Practice with assigning overall SPS levels to students.

Although the principal was seeking opportunities to assist the staff in the implementing SPS in Mathematics, and to some extent, providing a mechanism by which he could justify to his superiors that he was promoting the implementation of SPS, at no stage was there a significant abatement of his or his staff's denial of the need to change, defensive behaviours and negative emotions (Carnall, 1986 Levy 1986). For example, during the QAMT-sponsored session, the environment was hostile and unaccepting of the decision to implement SPS in Mathematics, with the Principal of Palmville State School declaring his public opposition to the principles of SPS and its implementation by requesting the professional development facilitator to "go back to the Education Department, and tell them the feelings of the group, and get them to change SPS." Clearly the principal of Palmville and many of the staff had not moved to Carnall's third stage of "discarding", (1986) which involves recognising that change as inevitable, and starting to talk openly and constructively about the change. Some of the staff moved into this stage as the year progressed and started to look to the future, solve problems and take initiatives to make SPS work in their classrooms. This was seen in the different ways that the teachers began to organise themselves and work together within the school.

A number of opportunities, formal and informal, eventually emerged for teachers in the school to "get together to work on SPS issues". Consistent with the principal's perceived role as manager of time and resources rather than leader of teacher learning, he allocated one of the regular afternoon staff meeting (once every three weeks) to the development of SPS in Mathematics in the School. These meetings provided forums for teachers to discuss approaches and tasks involved with meeting the Departmental requirement of reporting under the SPS framework by the end of the year. The principal did not plan or lead these afternoon sessions, rather he felt his part was played by providing the time. As he expressed, "My teachers know a lot more about it than I do. They are the ones having to work it out".

In addition to these formal full staff meetings on SPS, a number of staff also decided to meet informally every Tuesday afternoon to investigate issues associated with and develop responses to the Student Performance Standards in Mathematics. During these times, teachers reviewed exemplar work samples that had been assessed using SPS, critically read and re-read outcome statements, "assigned" levels to
student work, postulated how SPS might be implemented within their classrooms and planned assessment tasks for use in the classroom. This was seen by the participating teachers as the most useful activity in which they had been involved. These teachers moved into Carnall's fourth stage called "adaptation" where new methods and behaviours were trialed, and modifications made. There were a number of factors that limited the effectiveness of this activity. As these meetings took place after school as an extra commitment to normal duties, many teachers were unable or unwilling to attend on a regular basis. The long distances travelled by most of the teachers, their own family commitments, and the other compulsory afternoon staff meeting all contributed to limiting the teachers involvement in this group. The core of this group consisted of about three people with three others attending irregularly. It should be noted that this was a teacher-led initiative, sanctioned by the principal but not part of the school's expectations or requirements.

Throughout all of these different in-service activities, the emphasis was given to understanding "how to do this SPS", which incorporated seeking to interpret "it" properly and focused on completing the official SPS report at the end of the year. There was little desire expressed amongst the staff of Palmville State School to seek to understand "why it is here" and "where did it come from". As expressed by the Principal,

"The explanation disappears into the doing. All we are worried about is fulfilling our obligation and making sure we introduce performance standards. ... The current school policy on SPS is to 'do whatever you have to do'."

SPS in action: meeting the requirement
In meeting the requirement to report on each student within the SPS strands of Number, Space and Measurement at the end of 1995, most teachers of Palmville State School collected pieces of student work for assessment against the SPS in Mathematics outcome statements. In doing so, as reported by a number of teachers, SPS in Mathematics has had a major negative impact on teacher workloads. They identified planning, rearranging teaching programs, and organising data and keeping records as some the areas in which they have had to make changes, which resulted in increased teaching workloads and stress. Further, some teachers felt that they have neglected some of the more valuable aspects of teaching and learning, and spent too much time on the mechanics of assessment (eg., collecting evidence, designing methods for organising and storing evidence; and in recording individual student achievement). In the main, SPS in Mathematics has had, as one teacher put it, "little impact on what is taught and how it has been taught. Simply less is taught because more time is spent on assessing to meet the requirements of SPS."

Indeed, as the Principal reported, "There were a lot of work sheets given out towards the end of the year to keep the children occupied so teachers could work on SPS." Although he conceded that SPS had resulted in a broadening of what is taught to include spatial work, chance and data, and problem solving, he felt this type of knowledge was far less important than traditional calculating and number facts and that it was not valued by the parent community.

In 1995 the school retained its existing assessment program and reported to parents using the usual reports, in addition, parents were
issued with the standard SPS report form as required by the Department of Education. At the end of the year, the Principal reported that the teachers were feeling relieved that the task was "over for the year. But SPS will be an ogre again next year!" Reflecting on the process of school-level implementation, and revealing steadfast opposition to SPS, strong emotion and defensive behaviours, he noted that

"Implementing SPS has been clumsy and time consuming. It is an extra chore and required extra time. I find this [SPS in Mathematics] has hurt teachers more than any other innovation I can recall. ... There have been no real benefits for the school, only difficulties. SPS, in its current format, doesn't give parents much useful information. Standardised diagnostic tests are a far more efficient approach to assessment which provides excellent feedback to parents and teachers without the extra stresses on teachers. SPS could have been handled better if schools were directed what to do. It was not my responsibility to make it work."

CONCLUSION

For the teachers of the case school, SPS in Mathematics was a decision made beyond their local context, a decision in which they perceived they had "no say". They perceived and accepted resentfully their role as "doing what they were told" and demonstrated many of the stages described by Carnall (1986) as being typical of people's response to second-order changes. For the teachers, "implementation" of the SPS curriculum change was not a straight forward process. As recognised by Hargraves (1995) and Shapiro (1994), no written policy can be clear or literal enough to secure real consensus, and policy intentions will be reinterpreted in the light of the implementor's purposes and perceptions, which were, in this case, to complete with minimal disruption only those tasks prescribed by the Department of Education.

In this case study the SPS in Mathematics curriculum change policy was not implemented 'intact', which calls into question the rationalistic and simplistic assumption of bureaucratic views of policy implementation (Wilenski 1986). Rather, reacting to the particular blend and mix of school-level factors, the school re-articulated SPS in Mathematics. It rejected certain elements of the policy, interpreted and re-interpreted other elements in particular ways. Consequently, it developed its own unique SPS in Mathematics which was consistent contextually. In so doing, they restricted the impact of SPS in Mathematics on the school's assessment, teaching and learning, and reporting practices such that the school's existing mathematics assessment program, curriculum and pedagogy, and reporting practices remain well entrenched, with SPS in Mathematics running as a parallel, add-on activity.

It should be clear from this study that the feelings and experiences of implementors matter. The way school staff, Principals and teachers, feel about curriculum changes - in their philosophical commitments and emotional responses to proposed curriculum changes - has a significant impact on the implementation processes and the subsequent policy outcomes. And, more generally, it should also be clear that the implementation context matters - in its aims, objectives, resources and politics. It should be recognised that school-level staff hold and exercise significant power in determining the outcome of policy at the school level. And indeed, as noted by Foucault (1978), where there is power, there is resistance - These points of resistance
are present everywhere in the power network. Hence there is no single locus of great refusal, no soul of revolt, source of all rebellions, or pure law of the revolutionary. Instead there is a plurality of resistances, each of them a special case: resistances that are possible, necessary, improbable; others that are spontaneous, savage, solitary, concerted, rampant, improbable; still others that are quick to compromise, interested, or sacrificial; by definition, they can only exist in the strategic field of power relations (p 95).

In this light, it becomes essential to view teachers as valued partners in the curriculum change policy design process rather than as tools or implementors being required to carry out the changes designed by others.

LIST OF REFERENCES


