Creating Spaces: Opening up thinking and questioning about learning using a system’s early numeracy strategy.

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Introduction
Schools have seen significant reforms that have been linked to school improvement and effectiveness. These reforms have led to a situation where teachers have been the focus of school improvement. Systemic measures, such as strategic management, whole cohort testing and target setting have been developed to ensure that necessary reforms occur to improve student’s learning. What is interesting is that the “improved student learning” is often only seen to be important in some areas of the curriculum. The result of this has seen a separation of curriculum into what some call “core” or “key” curriculum. This is predominantly literacy and numeracy.

The perceived need for improvement of student performance in literacy and numeracy has seen the introduction of systemic, strategic approaches to be brought about school improvement. This can have the effect of alienating teachers who feel that their function in the reform is to implement that which has been determined elsewhere, whilst being held accountable for failure to improve student outcomes. This has also led to greater curriculum uniformity and less creativity and ingenuity (Hargreaves, 2002).

Two worlds
The educational reforms that have occurred can be understood as two worlds: the world of the educational reform agendas and goals and the world of educational values and cultures. For the purpose of this paper the Habermasian concepts of Lifeworld and Systems (Habermas, 1987) will be used to frame understandings of the relationship between systems and teachers, drawing on an interpretation by Sergiovanni (2000). Sergiovanni uses the terms lifeworld and systemworld to describe what are “two mutually exclusive yet ideally interdependent domains of all of society’s enterprises.” (Sergiovanni, 2000: 5) Both worlds are seen to have value and are necessary. Schools and systems operate within both worlds.

The lifeworld is seen to be that where individuals find themselves. The lifeworld defines:
Who we are
What we are on about
What we value.
It is the stuff of culture and that which is deeply satisfying in terms of meaning and significance. For teachers it is what energises them, what they are passionate about, what satisfies them in their work.

It also is concerned with how teachers define and redefine themselves. This process of defining and redefining occurs through mutual participation in communicative action. This necessitates mutual participation by all concerned with the focus on developing mutual understandings, rather than common behaviours. Therefore discourse is necessary in order to communicate inherently good reasons to pursue a given course of action over another (Chambers, 1995).

The lifeworld therefore is concerned with the purpose and identity of individuals and groups of individuals as defined through mutual participation. Communicative action leads to the regeneration of value-commitments. Communicative action requires freedom to search for truth, to connect to traditions and conditions, and allows for the free transformation of those traditions and conditions by those of the lifeworld. At the heart of the thinking here are issues of democracy and spaces for discourse in which to shape, reshape, define and redefine teaching and teachers.

The systemworld’s functioning on the other hand is
- Oriented towards particular goals
- Defines those goals
- Establishes criteria for measuring progress towards those goals
- Establishes and focuses on targets
- Monitors progress towards goals.

The systemworld is concerned with unanimity (Coles, 1995). This unanimity can lead to a loss of identity for individuals and groups of individuals. The sense of malaise and dissatisfaction experienced by many teachers is possibly a result of a loss of identity. This is often expressed in terms such as, “I don’t enjoy this any more.” Or “This isn’t what I came in to teaching for.”

Both the lifeworld and the systemworld have value. They are both mutually exclusive and ideally interdependent worlds. For the systemworld to be legitimised it requires the free support of the lifeworld. Where this support is coerced, questioned, or non-existent the systemworld can be said to be in a crisis of legitimacy. This can lead to colonisation, where the systemworld seeks to take over the lifeworld, or decoupling where the lifeworld is separated from and different to the systemworld.

Part of the challenge faced by systemic reforms is obtaining the free support and connectedness of the lifeworld. The currency of the systemworld is the dominant discourse that it creates. Where the dominant discourse of the systemworld is not congruent with the discourse of the lifeworld there can emerge a crisis of legitimacy. The challenge that then is being faced is one where the new ideologies and philosophies emerging from the systemworld
need to be connected with existing traditions and conditions of the lifeworld. For teachers this connecting or disconnecting takes place in their workplace and in themselves. Teachers don’t operate in one or the other world, but rather both worlds simultaneously.

Changes in the dominant discourse
Since the late 1980’s there has been a shift in the dominant discourse in school education in New South Wales. This shift in the dominant discourse reflects shifts in the political agendas and the locus of control for schooling. This time has seen a significant restructuring of school education and an increased direct involvement of governments and systems in schooling. These have seen educational agendas shift significantly to the political right and power and autonomy that had been located in schools shifted to statutory bodies such as the Board of Studies and systems.

Schools, and teachers, increasingly have been held accountable for the results of teaching and learning. Systemic schools within the Archdiocese of Sydney have not been sheltered from this shift in educational thinking and its accompanying discourse. Systemic primary schools in the Archdiocese of Sydney have been significantly reshaped accordingly. Some of this shift in the discourse is reflected in Table 1. The discourse reflects the focus of the language used in discussing education.

Table 1- Lifeworld and System world Discourse

<table>
<thead>
<tr>
<th>Lifeworld Discourse of primary teachers</th>
<th>Dominant Systemworld Discourse</th>
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</thead>
<tbody>
<tr>
<td>Education of the whole person</td>
<td>Literacy</td>
</tr>
<tr>
<td>Professional responsibility</td>
<td>Numeracy</td>
</tr>
<tr>
<td>Teacher expertise</td>
<td>High standards</td>
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<tr>
<td>School-based development</td>
<td>Strategic management</td>
</tr>
<tr>
<td>Time to reflect</td>
<td>“Public” accountability</td>
</tr>
<tr>
<td>Engaging children in learning</td>
<td>Targets</td>
</tr>
<tr>
<td>Child-centred learning</td>
<td>Intervention</td>
</tr>
</tbody>
</table>

The purpose of this paper is not to critique this shift in discourse; rather that the dominant discourse reflects the educational shifts that have taken place. This discourse can be alien to the lifeworld of primary teachers. The present dominant systemworld discourse reflects the “currency” of the system. The discourse has “currency” because it is deemed to have educational validity. The dominant discourse claims a space in the conversations about education within the system of schools. What is questioned is not the whether one is better than the other but rather how the systemworld connects with the lifeworld of the system, schools and those individuals within them.
Archdiocesan Numeracy Strategy: Interface of Systemworld and Lifeworld

The last decade or so has seen an increased focus on literacy in primary schools. More recent years have seen attention drawn to numeracy. Numeracy is an official knowledge that has gained increased prominence and a centrality in the primary school curriculum (Apple, 1995, 1999). Mathematics has enjoyed a high status within the primary curriculum; more specifically the domain of Number over other domains. Within mathematics some knowledge is deemed to be more legitimate and of greater value. This may be because of the perceived masculinity of some of the domains of mathematics.

The strategy is a systemic approach to addressing the issues of improving numeracy learning. All systemic primary schools in the Archdiocese of Sydney had to be part of the Archdiocesan Numeracy Strategy, commencing either in 2002 or 2003. This has meant that numeracy is a high status area in the curriculum and has been made a priority within the systemic schools of the Archdiocese of Sydney. The strategy is in its first phase and commenced in 2002, focusing on Number, Space and Geometry, and Measurement in the first five years of schooling. It reflects the political imperative to improve numeracy levels in children and a system level goal to improve numeracy outcomes (systemworld). It also encapsulates the expressed needs of principals and their teachers to want to improve the quality of educational provisions in numeracy (lifeworld). Diagram 1 provides a visual representation of Phase 1 of the Archdiocesan Numeracy Strategy.

The National Goals for Schooling (1999), the National Plan (2000) and the Archdiocesan Strategic Management Plan, Towards 2005 - Mark 2 (2000) are representative of the systemworld. The National Goals for Schooling identify numeracy as an area for schooling to address, with the National Plan tying funding to accountability. The Archdiocesan strategic management plan had named “measurable improvements in student numeracy with reference to system guidelines and Targets, and State and National benchmarks” (SACS Board, 2000: 15) as one of its outcomes for Teaching and Learning.

The Archdiocesan Numeracy Strategy has children learning and teachers teaching at its core. The strategy draws on the research and experience of the Early Numeracy Research Project.
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Archdiocesan Numeracy Strategy

Focus on

• Contemporary research and theory – ACU, Victoria
• A Clinical Interview for Number: Administering, Analysing, Interpreting
• Growth Points in Number, Space and Measurement – How children develop understanding in these domains
• Assisting student development and progress – teaching for learning in Number, Space and Measurement.

National Goals


Key elements of the National Plan are:

• Early Identification
• Early Intervention
• Agreed upon benchmarks
• Accountability
• Professional development

Goal 1: “Schooling should develop fully the talents and capacities of all students.”

Goal 2: “In terms of curriculum, students should have:

2.1 attained high standards of knowledge, skills and understanding through a comprehensive and balanced curriculum in the compulsory years of schooling…

2.2 attained the skills of numeracy and English literacy; such that, every student should be numerate, able to read, write, spell and communicate at an appropriate level.”

National Goals

Diagram 1: Archdiocesan Numeracy Strategy

Our Mission

• Celebrating being Catholic in Australia • Ensuring quality teaching and learning • Making a difference in our world.

“As partners in Catholic education, we commit ourselves to providing high quality teaching and learning programs.

Outcome 3.2 Measurable improvements in student numeracy with reference to system guidelines and Targets, and State and National benchmarks”

Priority Three, Sydney Catholic Schools “Towards 2005” Strategic Management Plan: Mark 2

Stated/identified needs of schools.

Archdiocesan Numeracy Strategy – Phase 1

Focus on

• Numeracy Focus Teachers implement strategy and professional development at school level.

Attend five days training on Number.

Two days training on Space and Measurement will occur the following year.

The child

the focus of teaching and learning

Linked to

Basic Skills Test.

Academic expertise

Theory and Research.


Present training days.

Provide in school support in taking the Strategy forward at local level.

Classroom Teacher

Practical, professional expertise.

Our Mission

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and Success In Numeracy Education from Victoria. Accessibility to teachers in terms of language and requirements for implementation were key factors in developing the strategy.

The challenge faced in the implementation of the strategy is the connection between the systemworld and the lifeworld. The focus on the child and classroom practice is representative of the interface between the systemworld and the lifeworld. It is here that the interdependence of both or crisis in legitimacy will be exhibited. If there is a crisis of legitimacy then this may be expressed through the systemworld colonising the lifeworld of the teachers by imposing the systemworld expectations on the lifeworld of the teachers. This can manifest itself in the form of teachers doing something because they have to do it, but not really seeing any value in it. The alternative, in a crisis of legitimacy, is that teachers will decouple from the systemworld. This may be manifested in teachers “doing their own thing,” whether privately or publicly.

Train-the-trainer + support: An attempt to colonise? Or mutual participation in communicative action?
Addressing numeracy and undertaking the strategy has been imposed on the systemic primary schools with approximately half of the 113 systemic primary schools commencing training in the strategy in 2002. The remaining schools commenced involvement in the strategy in 2003. Each school needed to appoint at least two staff who were to be the Numeracy Focus Teachers (NFT) for the school. Ideally, one of these Numeracy Focus Teachers was to be the Principal or the Assistant Principal. The NFT had the responsibility of
- attending the six training days provided by the system,
- applying learnings and understandings in their own classrooms with the intention of the NFT becoming models of good practice in their school.

The NFT also had the responsibility of training their staff in the key elements of the strategy.

Three project officers were appointed (one per region of the Archdiocese of Sydney). The project officers worked as a team in developing and presenting the training to the NFT in each of the three regions. They provided in-school support to the schools, and in particular to the NFT in developing understandings and values underpinning the strategy and how these may inform and shape school and classroom practice.

Whilst the model adopted was described as a “train-the-trainer + support”, the training was seen much more as a space in which contemporary understandings of early numeracy could be introduced and explored. The emphasis was on participants engaging in the training and reflecting on the relevance of understandings of children’s learning in numeracy and the implications for improving the quality of the children’s learning experiences in
the early years. A key question for the NFTs is, “How might this be useful in providing for the numeracy needs of students?”

To support the development and implementation of the Archdiocesan Numeracy Strategy the Catholic Education Office, Sydney provided various forms of support to schools. Casual release was made available to each school for the NFTs to attend the training days. Each school was also provided with an allocation of 0.1 Full Time Equivalent (20 days) which was to be used to support the implementation of the strategy. Schools were to determine the best way to utilise this resource for their needs.

The hope is that the Archdiocesan Numeracy Strategy is seen as a framework to support teachers in exploring teaching and learning in numeracy in the early years. The framework can be conceptualised as a cage that constrains and restricts; or it can be conceptualised as a skeleton that supports and can be given “life”. How schools use the framework is up to them based upon their needs. There is a tension that exists with some of the Numeracy Focus Teachers looking to the system to provide outlines for the nature and structure of staff meetings and for their in-school professional development. This request occurs for a several reasons which include schools having little time to reflect and plan for themselves, as well as a lack of confidence in the area of numeracy. The system has attempted to address this tension by providing appropriate support to assist schools in focusing on numeracy at the school level, whilst allowing a space to be created for school’s to assume some professional responsibility and agency.

There is a danger that the Archdiocesan Numeracy Strategy can be interpreted as a top-down initiative, with teachers perceiving themselves as the deliverers of the change, rather than key people in the on-going development of the strategy-in-action in their schools. The implementation of the strategy has created an interface between the systemworld of the strategy - which includes goals, improved learning outcomes and monitoring the progression towards these goals - and the lifeworld of the schools - which is concerned with the culture of the school and what is valued by teachers. Consequently, systemic schools have engaged in the strategy in various ways even though there are strong elements of unanimity evident in terms of training. What follows is an examination of one school’s engagement with the Archdiocesan Numeracy Strategy.

Background and methodology
St. Pius’ is a small, single-streamed inner city school catering for boys and girls from Kindergarten to Year 6. There are currently 143 students enrolled at the school. The students come from a range of socio-economic and cultural backgrounds. Twelve different language groups are represented at the school with 70% of students having English as a second language.
Seven full-time classroom teachers and 10 part-time specialist teachers (two ESL, a Special Education teacher, a Teacher Librarian, a Reading Recovery teacher, Physical Education teacher, Creative Arts teacher, Speech teacher and two executive release teachers) staff St. Pius’ school. The School Executive is relatively new with the Principal in her third year, the Assistant Principal in her second year, and the Religious Education Coordinator having been at the school for a significant number of years. All three members of the executive are new to their roles (ie. first appointments).

All classroom teachers have been at St. Pius’ for at least two years with several teachers having been at the school for a significant number of years. Therefore there is a range of experience amongst the teaching staff. Teachers are dedicated and committed to a team approach. This is demonstrated through teachers sharing ideas, collaboratively planning and team teaching. While the level of teaching experience varies, in general, teachers are willing to share their expertise with colleagues and are open to new ideas.

Whilst this paper doesn’t represent a formal research project into the school a methodology for gathering and interpreting data from the school was adopted. The school’s approach to implementation of the Archdiocesan Numeracy Strategy had been recognised as being different from the way in which most schools were approaching implementation. The principal of the school was approached about the possibility of “having a story to tell”. The principal has consistently stated that she didn’t feel that the school was doing anything worthy of telling in other forums. The authors of this paper thought otherwise.

Data were collected through unstructured interviews with the Numeracy Focus Teachers (one of whom was the Principal). An opportunity for a “conversation” between four of the staff was also organised. These four staff consisted of the two Numeracy Focus Teachers (ie. the Principal and a classroom teacher) and two other classroom teachers. The “conversation” was recorded and analysed as to key themes and emerging issues. The main focus was the capturing of what was happening as teachers faced the meeting of the systemworld and lifeworld as experienced through the Archdiocesan Numeracy Strategy, rather than a detailed deconstruction of the situation. In telling the story the authors have endeavoured to be respectful to the school staff and authentic to their story. It is acknowledged that the authors are observers from the system level recounting what they have seen and heard. Therefore the story told is shaped from the experiences and understandings of the authors.

One school’s use of “the numeracy space” to create a learning community St. Pius’ Enmore engaged in the Archdiocesan Numeracy Strategy in such a way as to use the strategy and its resourcing to create a space to focus on the lifeworld of the teachers allowing them to explore what is important to them in creating a school culture that is focused on learning. The school saw the
strategy as a framework to support. The prime concern for the principal and teachers at St. Pius’ has been to work within the strategy to develop a common culture of learning amongst the staff. For this school the strategy is a means to an end. In this way it can be seen that the lifeworld of the school is colonising the systemworld of the strategy. The staff are claiming the strategy as their own and shaping it in a way that meets their needs and those of their students.

Their story started prior to the Archdiocesan Numeracy Strategy. In 2001 Numeracy was identified by the staff as an area for professional development. Teachers were confident in the teaching of literacy due to ongoing professional development provided by the Catholic Education Office, Sydney for more than a decade. Teachers were keen to develop their teaching and learning practice in numeracy to a similar level as had been achieved in literacy. The need for numeracy emerged from the principal, being new to the school, talking with the staff about what they believed was working well in terms of teaching and learning and the areas the staff felt needed some focus.

The Archdiocesan Numeracy Strategy commenced the following year. The strategy provided the school with two key elements:

1. A space at the system level for school personnel to access contemporary research and develop their understandings in numeracy in the early years in the domains of Number, and to a lesser extent Space and Measurement; and,
2. Providing resources of time that the school used to create a space at the school level to engage in thinking and questioning about learning, not only in numeracy but also across the curriculum.

What was very evident in the reflective conversation of the principal was her emphasis on the school being a learning environment. She stated I wanted the school to be a place that focused on learning and I know that sounds ridiculous because we are a school. ... I think you can create an environment that promotes professional dialogue - one that promotes talking about learning.

The challenge that appears to be being addressed in this comment is the importance of creating an environment which values and promotes professional dialogue about what is important to the lifeworld of participants. Many schools talk about learning, but they do so in ways which are disabling of others. This talk is often more monologue rather than dialogue and is often focused on the behaviours rather than on creating and recreating understandings and values that underpin actions.
The focus of the principal was very much on the nurturing and on-going development of a learning culture within the school. It is noted that creating a culture, including a learning culture...

...requires not the stipulation of the facts, concepts, skills, and values that make us all “culturally literate”, but the creation of conditions necessary for all people to participate in the creation and recreation of meanings and values. It requires a democratic process in which all people... can be involved in the deliberation over what is important. It should go without saying that this necessitates the removal of the very real material obstacles - unequal power, wealth, time for reflection - that stand in the way of participation.” (Apple, 1993::238)

One of the questions schools need to address in seeking to become better learning cultures is what it means to be literate within a learning culture. Apple indicates that participation in the creation and recreation of meanings and values is important for all to become culturally literate. The importance of all teachers being involved in the creation and recreation of values was clearly evident in the conversations observed by the authors of this paper. Teachers were encouraged and had opportunities to engage in conversations about aspects of learning important and relevant to their own professionalism. These conversations were not about the behavioural aspects of implementing the Archdiocesan Numeracy Strategy in terms of “What am I expected to do?” Rather, the conversations involved a level of open and honest reflection and discussion between the participants within an environment that was striving to be as democratic as possible. Some key features noted by the authors that appeared significant in the success of this dialogue are:

- The level of professional trust between staff;
- The recognition and acknowledgement of teachers as professionals with differing values, perspectives and experiences of learning;
- The provision of time and space to reflect, create and recreate meanings and values;
- Active listening and valuing of all points of view amongst participants;
- The capacity of staff to challenge and question ideas;
- Professional collaboration and team work in examining understandings and practices.

The impact of the teachers’ use of the space created within the school for conversations about learning appears to be high in terms of teachers’ developing professionally and the impact on teaching and learning. The school created a space through which the teachers have opened up and

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optimised questioning and thinking about learning. Through engaging in the
Archdiocesan Numeracy Strategy teachers at the school have assumed a level
of professional agency (Frost, 2000). This was demonstrated through
- teachers identifying their needs to develop professionally;
- teachers assuming responsibility for planning and
engaging in their own professional development.
The school used the strategy, as part of the systemworld, to provide a
framework and focus for engaging teachers in key aspects of their lifeworld.
The teacher-agency involved the teachers entering into dialogue with their
colleagues in the school and from the system. This provided a foundation for
developing their learning community. The system’s goals and directions were
taken into account and addressed as part of the dialogue. This gave the
teachers scope to engage in opportunities to develop professionally either
individually or collaboratively. The teacher-agency was not about teacher
autonomy and independence that may have resulted in teachers doing their
own thing in isolation from each other and the systemworld. Instead, it was a
meeting of the systemworld and lifeworld that has resulted in nurturing and
sustaining the teachers as a learning community. This interface of the two
worlds has a level of mutuality and interdependence.

Emerging challenges
Creating a space for these conversations was not an easy undertaking, and
maintaining appropriate spaces is a challenge being faced by the school. The
creating and maintaining such spaces requires leadership, a level of
disposition by teachers to engage in such conversations, within a democratic
environment. Some key challenges come to mind in reflecting on the
professional dialogues and engagement in such discourse. These include:
- Reconceptualising school leadership to create spaces that
engage teachers in creating and recreating meanings and
values through democratic processes;
- The challenge of handing power to teachers for the
management of their own professional development in
ways that are liberating and authentic;
- The level of mutuality and equality that exists in the
dialogue within the learning culture. Who gets to talk?
Who gets listened to? Whose voice is most powerful?
Which ideas and values are recognized as valid?
- Recognising the tension between the systemworld and
lifeworld in schools - that change is not necessarily about
fidelity to a strategy or strategic approach but rather
cconcerned with LEARNING TO LEARN FOR BETTERING
CHILDREN’S LEARNING.

These challenges appear to be being addressed by the school as the principal
and teachers continue to work within the spaces created through the
Archdiocesan Numeracy Strategy. There is much to still be done, and much
to be learnt from the experience.
Conclusion
This paper has examined how one systemic primary school worked within the framework of a system strategy, the Archdiocesan Numeracy Strategy, to create and strengthen the learning culture within the school to address the lifeworld needs of the staff. The implementation of the Archdiocesan Numeracy Strategy presented an interface between the systemworld and lifeworld within the school. The strategy was used as a framework to support the teachers in developing professionally and opening up conversations that promoted thinking and questioning about children learning and teachers teaching. The spaces that the Archdiocesan Numeracy Strategy created were occupied by the lifeworld discourse of the teachers, whilst addressing the systemworld concerns and associated goals. Teachers used this space to reflect on, talk about, question, listen to and challenge each other. In so doing the teachers have engaged in creating and recreating meanings and values for themselves about teaching and learning. This has had an impact beyond numeracy as the school endeavours to create and recreate a culture of learning within it.

Acknowledgments
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Reference list


