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Keynote Paper

Improving Our Systems of Learning: Redefining the Job of Everyone in Education

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Contents

<i>Abstract</i>	3
<i>Introduction</i>	4
<i>Improving School Education - How are we going?</i>	6
<i>A World of Change</i>	6
<i>Increasing demands on schools and teachers</i>	8
<i>Is School Education a Healthy System?</i>	12
<i>Improving Education by Transforming the System of Management</i>	21
<i>A System of Profound Knowledge</i>	22
<i>Seeing New Paradigms and Possibilities</i>	26
<i>What is Needed</i>	27
<i>Evidence that the Quality Approach Works</i>	32
<i>In Industry</i>	32
<i>In Education</i>	34
<i>Improving Systems of Learning</i>	45
<i>Redefining the job of Teachers and Students</i>	45
<i>Redefining the job of Administrators</i>	57
<i>Conclusion</i>	62

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Abstract

Our education system continues to be subjected to wave after wave of reform, all aimed, we are told, at improvement. Researchers, policy makers and practitioners look for ways to improve performance, but rarely look beyond education for theory or practice.

Over the past century or more, a great deal has been learned about improving quality in organisations. One of the key thought-leaders was Dr. W. Edwards Deming. In the fifteen years since his death, a relatively small number of educators have truly comprehended Dr. Deming's 'System of Profound Knowledge', accepted the necessary 'brain transplant' and redefined their jobs to lead system improvement using his philosophy and methods.

This keynote will illustrate that quality practices, guided by theory, do improve student learning in the classroom and improve the quality of school life for all in the school community - frequently with dramatic positive results.

Introduction

We are delighted to have been offered the opportunity to present this keynote and share with you some of the experiences of our school improvement journey over the last dozen years. Lessons we believe to be relevant to everyone interested in improving schools.

In this paper we will

- Review the progress in improving school outcomes over the past decade or so
- Discuss the contribution of W. Edwards Deming to improvement of organisations (of any type)
- Provide illustrations of the potential of Deming's approach to deliver significant, measurable and ongoing improvement
- Discuss what this means for students, teachers and administrators – including how to take your next steps - next Monday!

We will briefly introduce our experience in working with schools to help provide some context to our arguments. Neither of us have teaching qualifications. We have engineering, science and management qualifications and experience. We came to schools through our interest in, and passion for, quality improvement. This led us to both be working with the Australian Quality Council, where we began the translation of industry improvement philosophies to the school education sector. Our first major experience was in Victoria where we led the Quality in Schools initiative from 1997 to 2002, and in South Australia with the Quality and Improvement in Schools and Preschools initiative from 2001 to 2003. During these years, as we worked with literally hundreds of schools, we came to see the enormous potential that the Quality concepts had to offer schools. We have been working with schools ever since. And loving it.

While this paper is critical of the education system in this country (and the western world for that matter), we wish to emphasise that it is the **system** of education that is the focus of our criticism here, not the individual **people** within the system. The vast majority of educators we have met are dedicated, passionate and delightful professionals.

We write of remarkable American educators and thought leaders, including Dr. W. Edwards Deming, Dr. Myron Tribus and David Langford. These are unique individuals who have made, and in David Langford's case continue to make, outstanding contributions to organisational improvement throughout the world. We are not advocating an American system of education or management. As David Langford says, 'I would not export the American system of education to any friendly country.'

We are also not saying businesses have got it right – many have not. But there is much to be learned and shared about what has worked and can make positive contributions to education, to face the needs of this twenty first century.

Improving School Education - How are we going?

We begin by exploring the context in which we might consider the performance of our school education system.

A World of Change

Peter Scholtes¹ used this diagram to highlight the rapid acceleration of technological change.

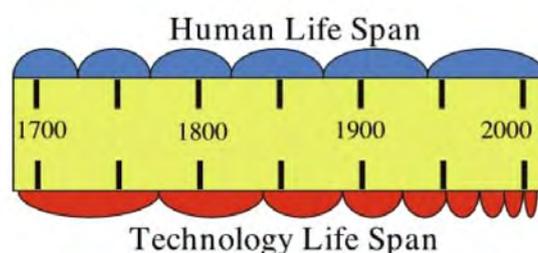


Figure 1. Human life span and technology life span

It can be difficult just to 'keep up' with the new features on our mobile telephone, or the latest version of Windows or Office, let alone get our minds around emerging concepts such as 'cloud computing'. We can hardly predict what technology will be available to us in five years, let alone in the next decade when our current primary students leave high school.

Which ever way we look, we can see more signs of rapid change, for which our students must be prepared if they are to be contributing citizens and employees of the future.

As well, there are significant and unprecedented global issues that must be solved during the lifetime of our school students. Here are just four of them:

1. Global warming: Scientific evidence of the extent and impact of global warming and climate change is being expanded on a weekly basis. Each new prediction seems to be even more grim than those prior to it.
2. Energy: Limitations in supply of oil vary, but there is evidence that without changes in our consumption patterns we could run out of oil during the lifetime of today's school children. We must learn to break our addiction to oil and other fossil fuels.

¹ Peter Scholtes, *The Leader's Handbook*, 1998

3. Water: The lack of clean water is another global issue that threatens the lives of countless communities and millions of people.
4. Poverty: The gap between rich and poor continues to grow across the globe and within nations, including Australia.

These are today's issues. They are real and urgent. We cannot predict the issues of tomorrow, but it seems inevitable that it is the generation that is currently in our schools that must be part of the solution.

It is now that our students must learn how to ask good questions, think about issues and solve problems. How can we best prepare our students to face the challenges of tomorrow?

This is a question that plays on the minds of many of us, including policy makers. Every ten years or so, Australian Ministers of Education from our Federal, State and Territory governments come together to agree the future of education in this country. These agreements are published as Declarations, after the cities in which they have been declared: Hobart 1989, Adelaide 1999 and most recently December 2008 in Melbourne.

The Melbourne Declaration tells us that we now have two national Educational Goals:

Goal 1: Australian schooling promotes equity and excellence

Goal 2: All young Australians become

- Successful learners
- Confident and creative individuals
- Active and informed citizens.

The Governments have committed to action to support these goals by:

- Developing stronger partnerships
- Supporting quality teaching and school leadership
- Strengthening early childhood education
- Enhancing middle years development
- Promoting world-class curriculum and assessment
- Improving educational outcomes for indigenous youth and disadvantaged young Australians, especially those from low socioeconomic backgrounds
- Strengthening accountability and transparency.

We leave you to read the detail and make your own predictions as to what, in practical terms will be done, but it seems more change is coming our way...

Many school principals and teachers are change fatigued. They are exhausted from the endless waves of changes, over which they have had little input and have even less control.

In the words of Peter Scholtes:

*I have heard this described as the
BOHICA syndrome.
“Bend Over Here It Comes Again!”*

Peter Scholtes, 1998, The Leaders' Handbook, p161

Some of the changes appear useful, many do not. Even if the reasons are clear, many teachers and principal struggle to think how they will 'fit it in'. Not surprisingly, many choose to ignore imposed changes, hoping they will go away. Sometimes they do. Principals and teachers become deflated, demoralised and despondent from endless changes being imposed upon them.

*The problem is not the 'failure' of our public
schools. They haven't really changed for
better or worse. The world has. That's the
real problem. Our system of education has
become obsolete...*

*T Wagner, Making the Grade:
Reinventing Americas Schools, 2003.*

Increasing demands on schools and teachers

Variation in student ability

Schools, and therefore principals and teachers, are under enormous and increasing pressure from society and a diverse range of stakeholders with differing needs.

As this paper argues, there is an urgent need to improve the quality of learning and learning outcomes for many students in our schools. It is how we go about achieving this that matters. Doing more of the same and trying to work harder will not deliver the changes we need: demanding more of teachers and principals, increasing the rate and scope of testing, reporting, accountability, ranking schools or performance pay. Can we expect yet more demands? If history and rhetoric are anything to go by, this seems likely.

Figure 2 was presented to the ACEL National Conference in 2007 by Geoff Masters from the Australian Council for Educational Research. It illustrates what we already know, that teachers face a wide range of student abilities in their classrooms, and that this variation increases with progression through the system. The reading graph is similar.

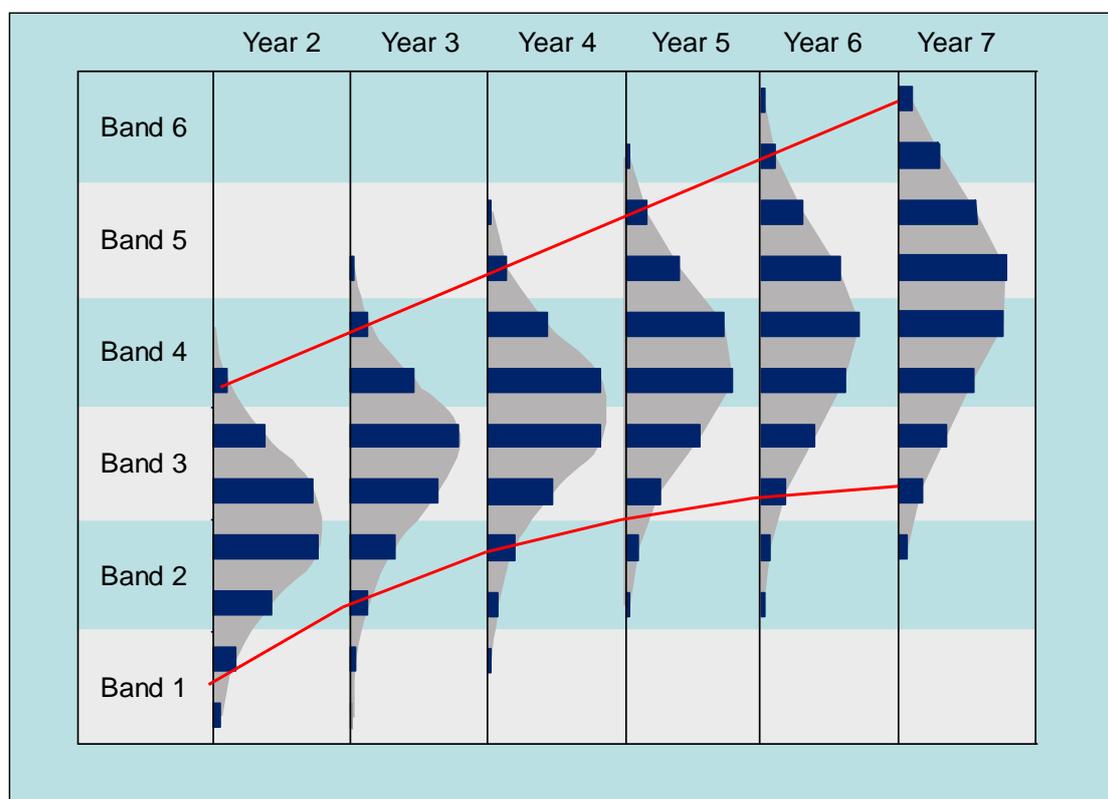


Figure 2. Student Achievement in Mathematics

Much of the pressure to improve school performance is focussed upon 'closing the gaps' - improving performance of students from low socio-economic families, or improving performance of the lowest performing students. This approach to improvement - targeting the 'tail-ends of the distribution' - increases variation, rather than delivering system-wide improvement, and does nothing to prevent the same poor performance recurring in future.

The Programme for International Student Assessment (PISA) is an internationally standardised assessment used to examine education performance across nations of the OECD. Figure 3 was also presented to the ACEL National Conference in 2007 by Geoff Masters. It shows the correlation between Australian student reading scores obtained as part of the 2000 PISA testing program, plotted against socio-economic status (SES), and the significant variation among the data points. The shaded areas show the students from low socio economic families and the poor readers – these are usually the tails of the distribution that ‘gap closing’ programs address.

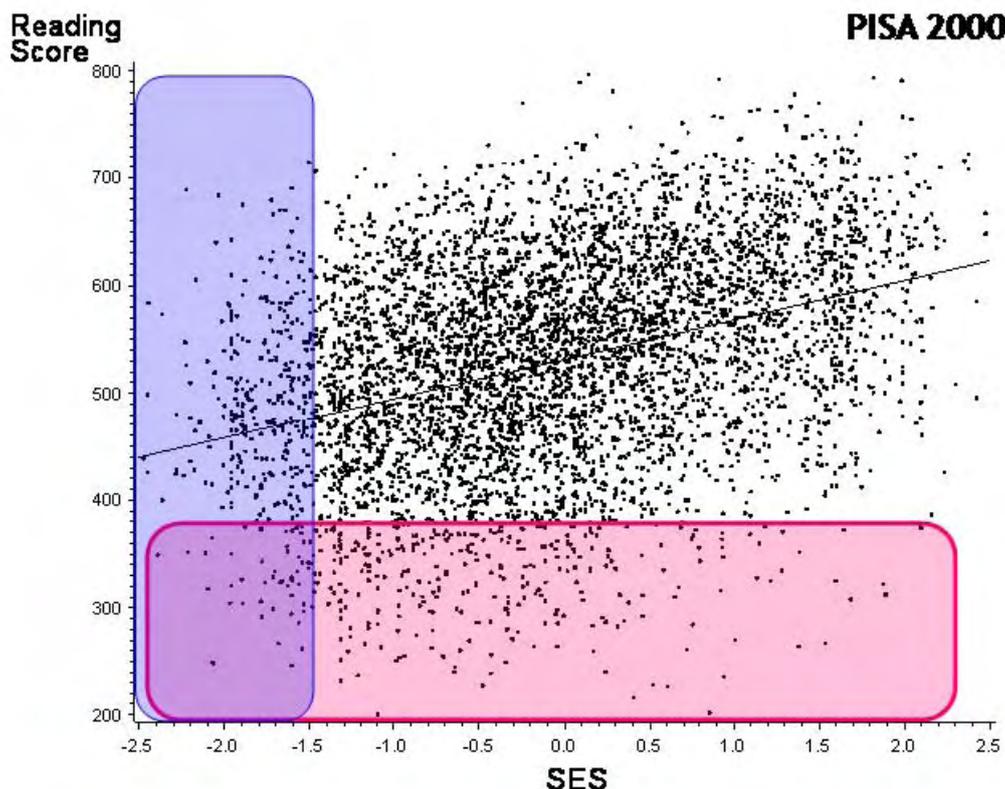


Figure 3. Targeted Initiatives

Teachers are being told that they must cater to the individual needs of all students. All school sectors must “promote personalised learning that aims to fulfil the diverse capabilities of each young Australian” (Melbourne declaration, 2008). Educators recognise this is extremely difficult. Many believe that it is impossible, within current schooling systems.

Accountability

It has been fascinating to watch the evolution of school improvement policy over the past decade. One of the themes we have observed is the push for an increase in 'accountability'. While couched in terms of helping schools improve, the mindset appears to be one of 'we need to collect data and hold the schools accountable' through implementation of systems of reward and punishment. There is little trust. Furthermore, the accountability push appears based on the assumption that 'if only we can provide them with the data to show them that they need to improve, they will get better'. Perhaps the policy makers believe that schools are deliberately withholding better methods, waiting for the data to indicate that these are needed. We are yet to meet any principals or teachers doing so! Finally, measurement, of itself, never improves anything. (As one of the authors of this paper knows, getting on the scales each week doesn't make him loose weight!) We are not arguing against measurement, in fact it is necessary, but not sufficient, for improvement.

Risk management

Our increasing litigious society has added further demands to managing risk in schools. Schools are now required to have policies and processes for occupational health and safety, emergency treatment, student supervision, internet use, child protection and mandatory reporting, trespassers, drugs, hazardous substances, critical incidents, lock down, evacuation, fire safety, risk management, record keeping... The list goes on.

"...Schools are increasingly expected to compensate for the shifts in society and family that affect children: changes in family structure, rapidly shifting trends in television and popular culture, commercialism without end, poverty, violence, child abuse, teenage pregnancy, substance abuse and incessant social upheaval..."

(Peter Senge, Schools that Learn, 2000, pp9-10).

It would appear that every time society hiccups, educators get another headache!

Curriculum

There are ongoing changes to curricula. Schools, it seems, must address the emerging gaps in our society, and we are faced with ongoing calls for inclusions to the curricula, particularly in the area of health and wellbeing: drugs (including alcohol and tobacco), sex, depression and obesity. There is even talk of a 'thinking curriculum' – what do people think schools have been doing until now? Everyone has a view on curriculum, and teachers are under pressure to 'get through it'. Oh, and then there will be National curricula.

We believe it is virtually impossible for principals and teachers to do everything that is being demand of them, using current methods.

We also believe that principals and teachers each deserve a medal for trying!

Is School Education a Healthy System?

It is in the context of global change and the increasing pressures on schools and teachers that we reflect upon the performance of the Australian school education system.

Learning Outcomes

International studies, such as PISA, show that Australia is performing quite well.

Our students are performing above OECD average, and we are among a large group of countries with similar results. However, when the data underpinning our averages are examined more closely, they exhibit wide variation, indicating that a higher proportion of Australian students are falling behind compared to other countries. Australian students performed less well in the 2004 *Trends in Mathematics and Science Study* (TIMSS), run by the *International Association for Evaluation of Educational Achievement*, where our year four students were outperformed by fifteen other countries, and year eight students by thirteen other countries.

In Australia, the percentage of students reaching Australian national benchmarks for reading, writing and numeracy have failed to improve, ranging between about 80% and 95% for year 3 to 7 students over the period 2001 to 2006 (illustrated in Figures 4, 5 and 6, DEST 2007). Many educators agree that the national benchmarks represent a pretty basic (low) skill level.

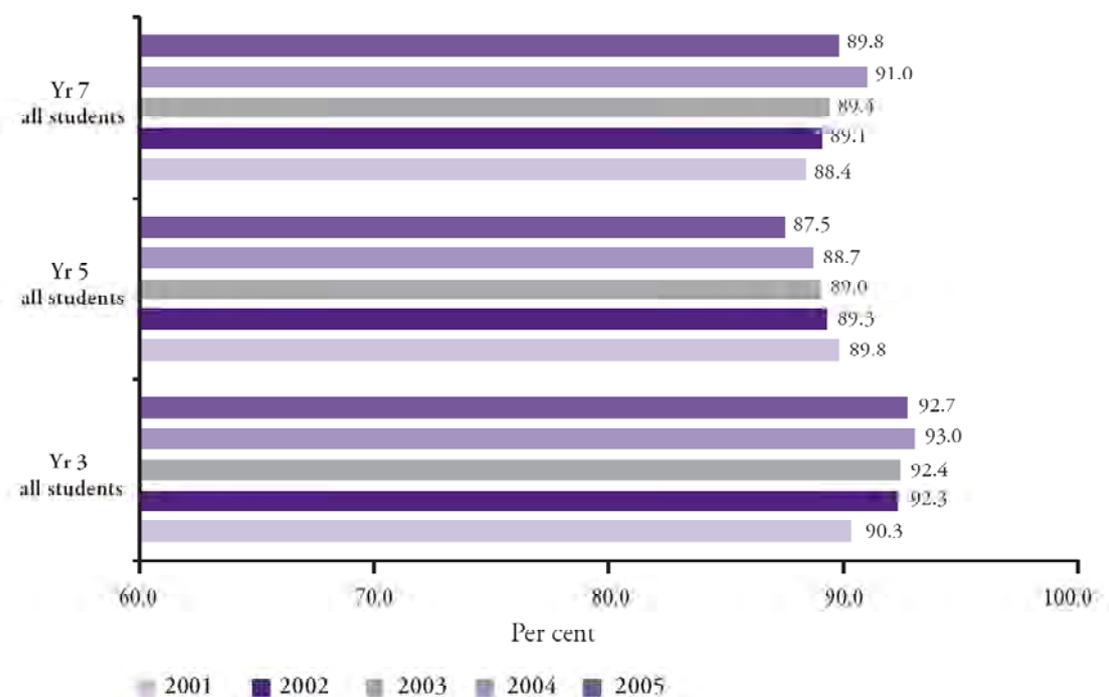


Figure 4. Percentage of School Students Achieving the National Benchmark for Reading (2001-2005)

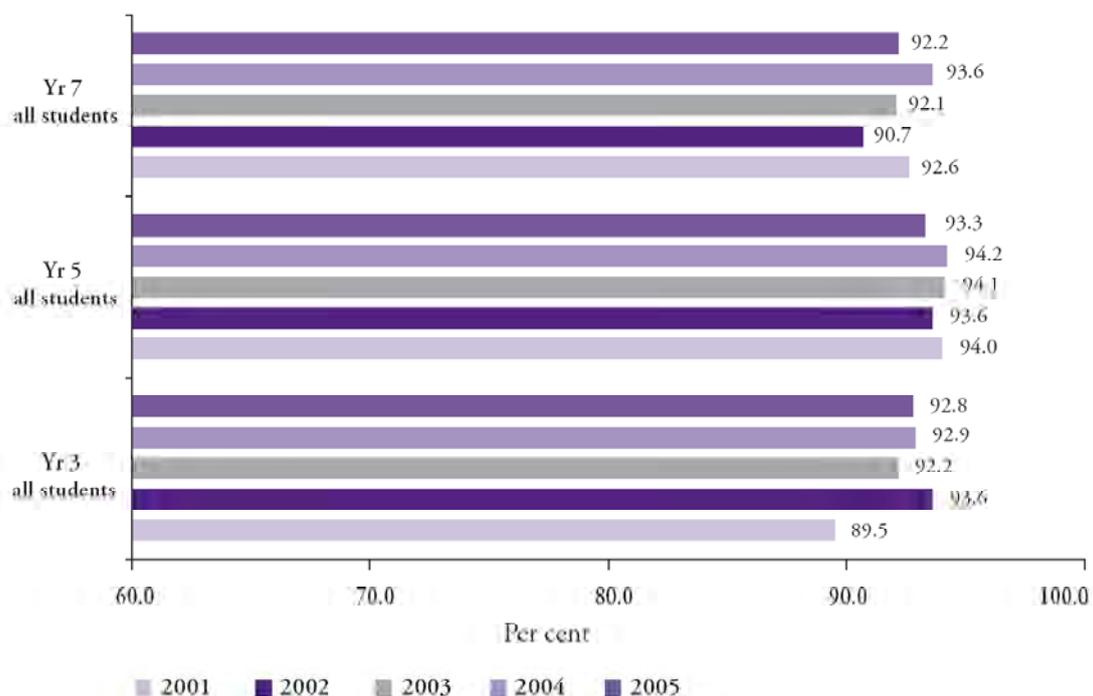


Figure 5. Percentage of Students Achieving the National Benchmark for Writing (2001-2005)

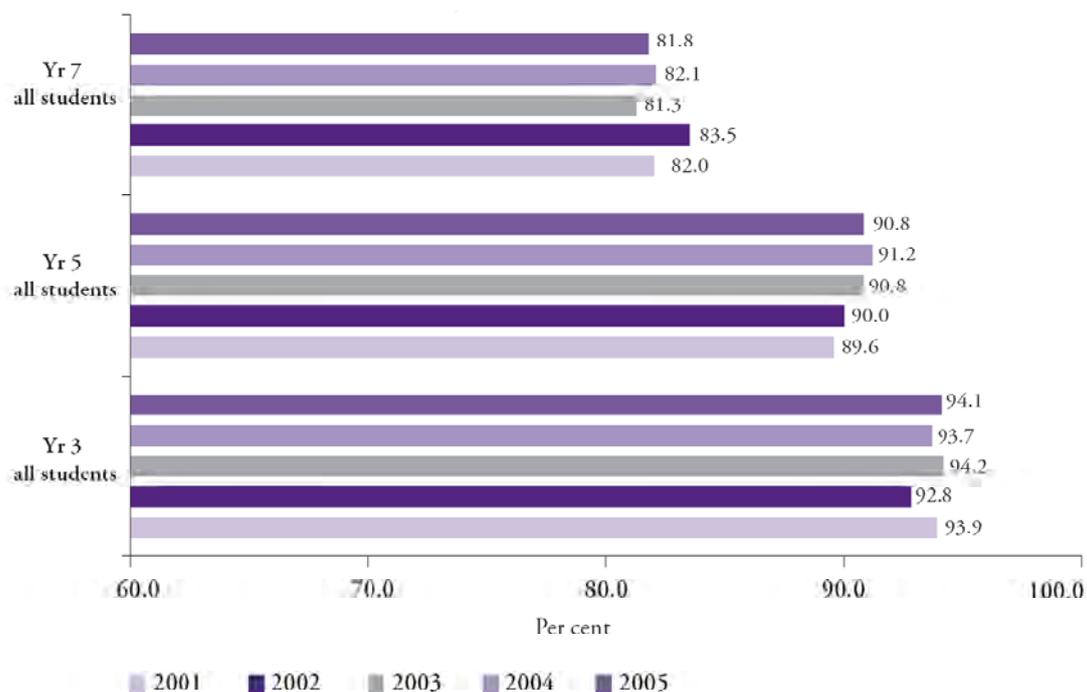


Figure 6. Percentage of School Students Achieving the National Benchmark for Numeracy (2001-2005)

The Victorian Department of Education and Early Childhood Development (DEECD) publicly reports a comprehensive range of school accountability data on an annual basis, reflecting the levels of performance achieved by schools across the State. The data released by the Department over recent years shows limited improvement in student achievement and highlights decreasing levels of achievement as student’s progress through the school system. (An example of these data are shown in Figure 7, DEECD 2008).

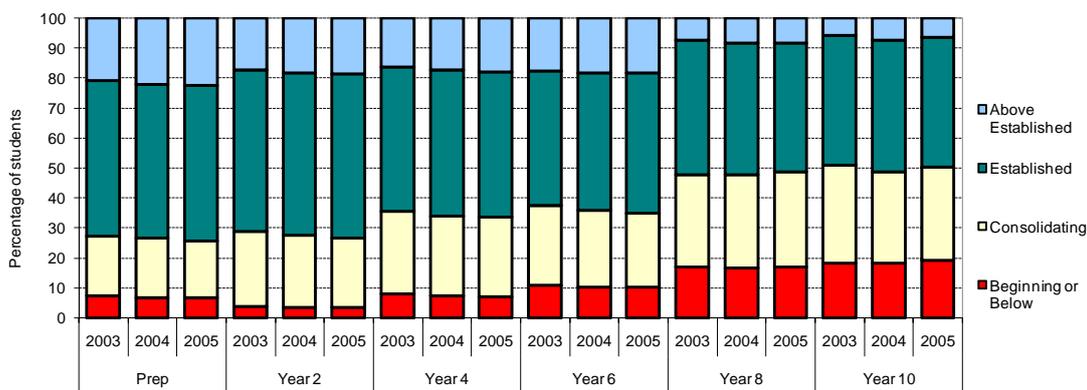


Figure 7. Proportional Benchmarks for Writing for Victorian Students (2002-2005)

In summary, learning outcomes appear not to be improving, and there are many students who are not learning to a satisfactory degree.

Student Retention

The Apparent Retention Rate for Australian schools, year 7/8 to 12, over the past ten years has been between about 72% and 75% (ABS Schools, Australia, 2007) with no sign of an improvement trend.

Compared with students who complete high school; early leavers generally experience higher levels of unemployment, lower income, decreased career stability, poverty, homelessness, drug and alcohol abuse, family breakdown and increased dependency on government welfare. This proves costly to communities in both economical and social terms. The earning capacity of those not completing secondary school averages 15% less than those who do.

Recent studies have shown the significant financial impact of school-based education (BCA 2003, Dorwick in Masters 2007, Coulombe and Tremblay 2005):

- a one (1) percent increase in literacy scores equates to a subsequent two to five (2-5) percent increase in labour productivity and a one-point-five (1.5) percent rise in GDP per head of population
- if the current proportion of Australian students completing year 12 was increased from less than seventy (70) percent to ninety (90) percent, our GDP would be \$1.8 billion higher by 2020
- improving the literacy and numeracy skills of people at the lower end of the skills distribution is more important to economic growth than investment in producing more highly skilled graduates.

Research examining the reasons given by students for leaving school early revealed that *not liking school* (51%), *failing school* (40%), *not getting along with teachers* (35%), *not keeping up with school work* (31%), are major influencing factors (Lamb et al 2004).

Parent Satisfaction

Research conducted by the Federal *Department of Education Science and Training* in 2007, surveying over two thousand parents of school students, reported less than satisfactory parent perceptions of the current school education system including:

- 25% were less than satisfied with the 'quality of teaching' at their child's school and the 'quality of their child's education'
- Only 58% rated the quality of primary education as 'good' or 'very good', and 40% for secondary education
- Over half (57.4%) indicated that improvement was needed. The top three areas identified for improvement were 'curriculum quality/content', 'standard of teaching' and 'school facilities and resources'
- Fewer than half believed students were leaving school with adequate skills in Numeracy (39.8%), Literacy (37.5%), Job-related skills (31.8%), Science (46.7%), Australian History (23.9%) and Democracy (23.2%).

These results were also significantly worse than those reported in an earlier (2003) parent survey.

Perceptions drive the choices parents make as to which school to send their children. There may be a message in these data relating to the migration of students from the public school system to the independent school system. In Australia, approximately 30% of students are educated in the independent school system, and this figure is growing. In the USA and UK, the proportion is closer to 10%.

Teacher Satisfaction

The literature reports growing dissatisfaction amongst the teacher population. The discontent appears to be school and system focused – involving deteriorating relationships with superiors and educational employers, workload and the standing of teachers in society.

"It is apparent that teachers increasingly feel unappreciated and criticised by society... Of almost 900 government teachers surveyed in Western Sydney, the status of teachers in society overall was found to be satisfying by only six percent of those surveyed." (NSW Public Education Inquiry 2005).

Stress-related illness is currently reported to make up more than half of the *Workcover* claims lodged by teachers.

While it is hard to find reliable figures for the rate of attrition of graduate teachers, reports suggest that one in four do not complete five years of service.

Perception Data

In working with schools and school systems, we have developed set of measures that allow the schools, and us, to know how they are progressing with their improvement efforts.

One of the data sets we have recently commenced collecting and reporting are the perceptions of students, staff and families. Tables 1 and 2 are based upon a sample of these data.

Table 1 reports the aggregated student responses from 198 primary students (year 4 and above) and 161 high school students (years 7, 8, 9 and 11). While these data represent only two Australian schools, our experience would suggest that these schools are fairly typical.

You will notice that:

- nearly half the students represented here agree with the statement *'I am bored by the things we do at school'*
- 30% disagree with the statement *'Learning at school is enjoyable'*
- about one quarter disagree with the statement *'I enjoy school'*.

Not surprisingly, these proportions are higher in secondary than primary school.

Interestingly, when we ask staff these same questions, the responses are quite different. Table 2 presents data from thirteen typical Australian schools.

Over time we will refine these surveys, including testing for repeatability and reliability, but for now, they provide interesting snapshots that can stimulate valuable dialogue among staff and students.

Student Responses	SA	A	MA	MD	D	SD	NR	Total	% Agree	% Disagree
I am proud of what I do and achieve at school	79	172	80	15	3	10	0	359	92%	8%
I am bored by the things we do at school	44	45	79	53	95	43	0	359	47%	53%
I am happy when I am at school	67	128	84	31	19	30	0	359	78%	22%
School is difficult and stressful	30	44	58	58	116	52	1	359	37%	63%
Learning at school is enjoyable	36	101	115	40	33	33	1	359	70%	30%
I enjoy school	61	135	68	41	17	37	0	359	74%	26%
I am confident at school	75	156	79	26	10	13	0	359	86%	14%

Table 1. Student Perceptions: Joy in School Work and Learning
(Two Typical Australian Schools, respondents from Year 4 to Year 11)

Staff Responses	SA	A	MA	MD	D	SD	NR	Total	% Agree	% Disagree
I am proud of what I do and achieve at school	56	112	25	3	3	1	4	204	97%	4%
I am bored by the things we do at school	2	9	15	28	97	51	2	204	13%	87%
I am happy when I am at school	33	119	37	5	6	2	2	204	94%	6%
School is difficult and stressful	15	22	51	26	68	19	3	204	44%	56%
Learning at school is enjoyable	24	108	48	10	8	1	4	203	90%	10%
I enjoy school	47	121	23	5	3	3	2	204	95%	5%
I am confident at school	34	129	28	4	7	1	1	204	94%	6%

Table 2. Staff Perceptions: Joy in School Work and Learning
(Thirteen Typical Australian Schools - Ten primary, Two High and One P-10)

SA = Strongly Agree, A = Agree, MA = Mildly Agree, MD = Mildly Disagree, D = Disagree, SD = Strongly Disagree, NR = No Response

Another tool we use to collect perception data is a correlation chart. Figure 8 illustrates a correlation chart showing data from year 8 students in a small rural NSW high school a few years ago. Each student was provided with four coloured adhesive dots: green for English, yellow for Mathematics, blue for Science and red for HSIE. They were asked to provide their overall perceptions of these four Key Learning Areas (KLA) by placing a dot for each on this chart. In so doing, they were simultaneously rating how much they enjoyed learning and how much they were learning in each KLA.

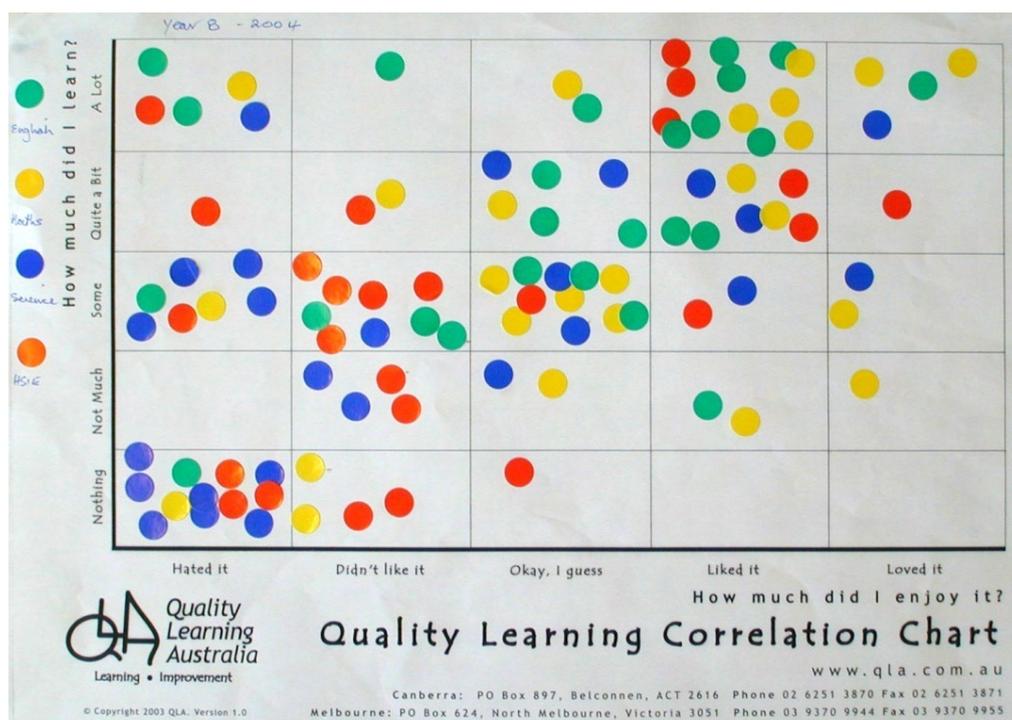


Figure 8. Correlation chart, an example of student perceptions of learning in year 8 at a NSW rural high school

There are three things that we find remarkable about Figure 8 and other examples like it:

1. It demonstrates a correlation between perceptions of learning and enjoyment. Overall, the more students enjoyed the learning experiences the more they learned. This is usually the case.
2. Almost half the dots (45%) fall in the 'Hated it' or 'Didn't like it' columns (enjoyment). Just over one quarter (26%) fall in the 'Nothing' or 'Not Much' rows (learning). This represents a significant degree of dissatisfaction, frustration and wasted effort.
3. When we show these charts to principals and teachers, most are neither surprised nor alarmed.

We find it interesting that those working in the education system have come to accept as normal and acceptable these high levels of dissatisfaction. The only other sectors where we can think this might be commonplace are in prisons and possibly in hospitals. Like schools, both have captive markets!

(By the way, the correlation chart is a simple tool that you can use to gather your staff and students' perceptions. It offers a great starting point for dialogue about how to make things better.)

No doubt, you will probably have seen other similar data relating to student attitudes to school, including the increasing disengagement as students progress through the system.

S u m m a r y

A review of these data accords with our own observations. While there are pockets of excellence – individual schools and classrooms that perform superbly well – overall, the system of education in this country is not healthy. It is, indeed, really crook. Furthermore, it has been so ill for so long that many of those working within it do not appreciate how sick the system really is.

Once again, it is the system that is underperforming, not the people.

Improving Education by Transforming the System of Management

We have repeatedly emphasised that the failure of the school system to demonstrate improvement has not been the fault of our principals and teachers: it is the prevailing system of management that must be scrutinised.

There is a law of organisational system that says:

*If you pitch a good player against a bad system,
the system wins nearly every time.*

We must work together, to change the system.

We do not have data to present a comprehensive view of Australian businesses, however, it would appear that they suffer similar challenges to education. Indeed, it can be argued that many of the problems with the system of education are the same problems affecting industry and government.

*We will never transform the prevailing
system of management without
transforming the prevailing system of
education. They are the same system.*

*W. Edwards Deming,
quoted by Peter M Senge,
ACEL Conference: New Imagery for Schools and Schooling,
October 2007*

As we already know, we need to be cautious in adapting any systems or methods from business into education. Yet, there are pockets of excellence from which we can glean insights about how to achieve improvement in schools, with processes that can be adapted to the school context.

A System of Profound Knowledge

How can it be that our systems of education can be so much in need of improvement, and under so much pressure to improve, and yet the data show little improvement?

How can it be that businesses seem to face similar issues?

Dr. Deming was right when he wrote:

*Best efforts and hard work,
not guided by knowledge,
only dig deeper the pit we are in.*

*W. Edwards Deming, The New Economics for Industry,
Government and Education, 1993, p3*

We need to know how to improve. Knowing what to improve is not sufficient.

Dr. Deming (1900 – 1993), an American statistician, is recognised as one of the key drivers behind the economic recovery of Japan after the Second World War. Though his efforts to support organisations to improve quality, he developed a deep understanding of what is required of leadership to achieve high quality and improving performance. It was not until the 1980s that his work became more widely known.

Dr. Deming proposed in his last book, *The New Economics for Industry, Government and Education* (1994), that what is needed is what he called ‘a system of profound knowledge’. This system provides a foundation for improvement and comprises four parts:

1. Appreciation for a System
2. Theory of Knowledge
3. Knowledge about Variation
4. Psychology.

Deming described the *System of Profound Knowledge* as a framework for applying best efforts to the right tasks.

Many have contributed to this theory for improvement as Deming was developing his thinking, and since. Key contributors include: Shewhart, Tribus, Langford, Sarahson, Juran, Imai, Kano, Tsuda, Maslow, McGregor, Mintzberg, Lewin, Porter, Harry, Scholtes, Kohn, Senge and Covey. There are many more.

We frequently represent Dr. Deming's four areas of profound knowledge as the diagram in Figure 9.



Figure 9. Four areas of 'profound knowledge'

To understand the implications for us as educators, we need to explore in more detail his System of Profound Knowledge.

This is what we interpret Dr. Deming to be saying:

Systems

1. Systems: People work in a system. Systems determine how an organisation and its people perform
2. Purpose: Shared purpose and a clear vision of excellence align effort
3. Processes: Improving systems and processes improves performance, relationships and behaviour
4. Clients: Clients define quality and form perceptions
5. Stakeholders: Sustainability requires management of relationships with stakeholders

Knowledge

6. Planning: Improvement is rarely achieved without the planned application of appropriate strategy and methods
7. Learning: Knowledge and improvement are derived from theory, prediction, observation and reflection

Variation

8. Data: Facts and data are needed to measure progress and improve decision making
9. Variation: Systems and processes are subject to variation that affects predictability and performance

People

10. Motivation: Removing barriers to intrinsic motivation improves performance
11. Relationships: Strong relationships are built through caring, communication, trust and respect
12. Leadership: It is everybody's job to improve the systems and processes for which they are responsible by working with their people and role modelling these principles

We call these the Principles of Quality Learning.

Dr. Deming defined a system:

A system is a network of interdependent components that work together to try to accomplish the aim of the system.

W. Edwards Deming, The New Economics, 1994

Some of the key differences between Deming's view of management and a more traditional view are the needs for leaders to:

- be very clear about the aims of the systems in which we work – without an aim there is no system; constantly question *'what is the purpose?'*
- establish shared vision – this is not the same as *'I have a vision, let me share it with you'*. Without vision, people know not what to strive for
- recognise that systems drive performance – stop blaming people, improve systems. Cease attributing causes to defects in people rather than to situations and systems
- appreciate that all outcomes, including learning outcomes, are achieved through processes – if we want to achieve better outcomes, then we need to improve the methods, or processes, that we use. *'If you always do what you have always done, you will always get what you always got.'* Focus upon processes as well as outcomes; constantly question *'by what method?'*
- strive for prevention rather than focusing upon remediation – unless we work upstream to prevent problems from arising, we will continue to have to remediate the effects of them. The only problems we can do nothing about are those we cannot predict
- be clear about our theory for improvement – stop copying others' practices and programs without understanding how they align with, and contribute to, your unique system
- understand and use data effectively to monitor progress and inform improvement – constantly ask *'how do we know?'*
- recognise the difference between common cause and special cause variation and how to respond appropriately to each
- prevent our systems from robbing people of joy in work and learning. Focus upon removing barriers to performance rather than prescribing solutions or pushing harder for results. Unlock intrinsic motivation – cease dependence on extrinsic motivators
- drive out fear.

For each of these needs, there are simple strategies, methods and tools that can facilitate understanding and improvement. Many of these tools are already in common use, for example brainstorming, pie charts, Venn diagrams and bar charts. Others are not, such as Capacity Matrices to track depth and breadth of learning, force field analysis to understand system driving and restraining forces, and Nominal Group Technique to establish priorities. More about the tools later.

Seeing New Paradigms and Possibilities

From our experience, we anticipate that many of you will see this list of needs as interesting, perhaps, but somewhat confusing. Some language and concepts may be totally foreign – for example, very few people have heard of common and special cause variation, let alone how to respond appropriately to each. For others of you, the implications of some concepts may seem immense – preventing students from not learning rather than perfecting sophisticated remediation programs. Yet for many of you, we hope, there will be a sense of curiosity, possibly fascination.

It is that curiosity and fascination that has driven us for the past two decades to learn more about Deming's philosophy for improving man-made systems. In some ways, what Deming is saying is very clear and obvious. Common sense. In other ways it is quite foreign to current conventional wisdom and can be confronting.

Many of you will have seen the following image, or variations of it. How old is the woman?



Figure 10. How old is this woman?

Source: http://www.coolopticalillusions.com/optical_illusions_images_2/young_woman2.htm

Perhaps you see an old woman. Or, do you see a young woman? Can you see both? The chin of the young woman is the nose of the old woman. The eye of the old woman is the ear of the young woman. The mouth of the old woman is the choker on the neck of the young woman. The old woman looks to the left. The young woman is facing away from us to the left and we can only see her in profile. Can you see them both now?

Deming's philosophy allows us to see things anew and with startling clarity.

*What you see depends on what you think
before you look.*

Myron Tribus, personal communication 2006

Deming's System of Profound Knowledge allows us to see organisations and improvement in a profoundly different way. Where, with one paradigm we see frustration and despair, with another we can see hope and possibility. But we must learn if we are to see in this new way. We must create new connections and, in some cases, dismantle old ones. For many of us it presents a major cognitive re-wiring job. The authors have been learning to see with this new paradigm for nearly two decades, and still we are making new connections and re-framing our observations. At times, it has felt like a brain transplant!

For most of us, brought up under traditional systems of management, the Quality approach represents a profoundly different way of seeing the world. It truly is a different paradigm.

What is Needed

How can we extend our understanding of Deming's ideas to make progress? We suggest there are four things that can help you. In the last section of this paper we describe what these four things look like, in simple and practical terms, for students, teachers and administrators. But first, let us explore what they are

1. Clarify the Aim

Classroom, schools, regions and departments of education each have increasing numbers of people working within them. It is important to ensure the aim of the system is clear, because the aim provides the target for action, effort and evaluation of achievement.

When talking about man-made systems:

*A system must have an aim.
Without an aim, there is no system.
The aim of the system must be clear
to everyone in the system.*

W. Edwards Deming, The New Economics, p51

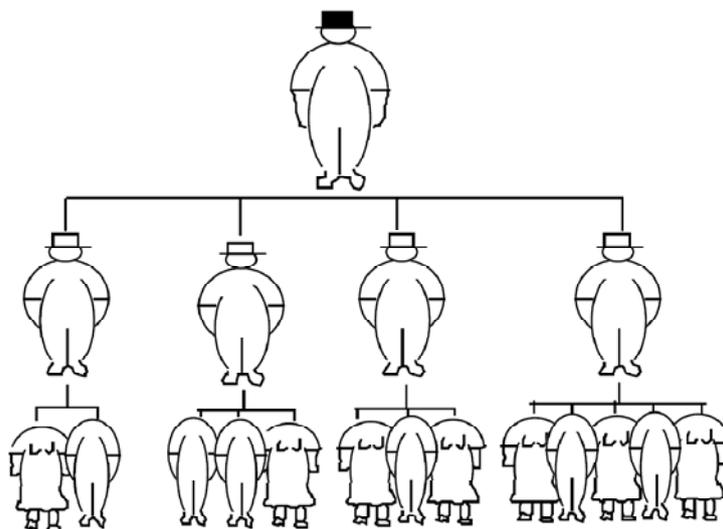
Furthermore, for us to improve a system, the aim of the system must remain stable over time.

*It is impossible to improve a system which
does not have constancy of purpose.*

Myron Tribus, When Quality Goes to School, undated

2. Work on the system

In his remarkable paper, *The Germ Theory of Management*, Dr. Myron Tribus pointed out that in many organisations, workers were asked to 'leave their brains at the gate' – just come in and do what we tell you. He illustrated it in this way:



*Myron Tribus, The Germ Theory of Management, (Undated
- and timeless), available at http://deming-network.org/deming_tribus.htm*

**Figure 11. The hidden assumption
in many manager's heads**

When asked of the relevance of Deming's work to education and how to translate the industry model to education, Dr. Tribus was very clear. The students are the workers, the managers are the teachers and principals. The student is not the product, the education of the student is the product.

It seems to us, that the above diagram also may represent a hidden assumption in many teachers, principals and administrators heads. This is most commonly manifest in unilateral directives by 'superiors' about what their 'underlings' should be doing.

This hidden assumption contradicts two simple facts:

*Only the people working IN the system know
what is going wrong and creating waste.
Only the managers, working ON the system,
have the authority to change it.*

*Myron Tribus, Will Our Educational System Be The Solution
or the Problem?, (1998), available at [http://deming-
network.org/deming_tribus.htm](http://deming-network.org/deming_tribus.htm)*

In addition to doing our daily work, in the system, we must make time to focus upon working on the system to improve it.

3. Refocus Relationships

It is from the following quote that the title and focus of this paper are derived.

*The essence of the Deming philosophy may
be found in the redefinition of the job of a
manager:*

The People Work IN a System

*The Job of the Manager is to Work ON the
System*

To Improve It, Continually

WITH THEIR HELP

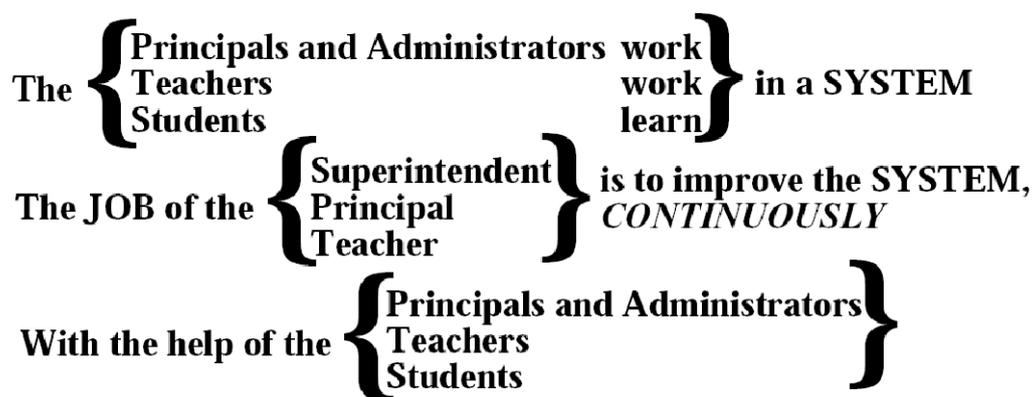
*Myron Tribus, The Aim of Education, (1997), available at
http://deming-network.org/deming_tribus.htm*

Here we can find a very simple place to begin. If we want to improve the experience and outcomes for our students, then we can begin by **asking** them to help us to identify 'what is getting in the way of their learning?' and 'what is creating lost opportunity, frustration and wasted effort?' Armed with this knowledge, we can work **with** our students to make improvements. Simple tools, such as the parking lot, plus delta, force-field analysis and multi-voting, which were introduced in this morning's workshop, can help enormously.

Similarly, as a principal, if we want to improve the experience and outcomes for our teachers, then we can begin by **asking** them to help us to identify 'what is getting in the way of them doing a superb job?' and 'what is creating lost opportunity, frustration and wasted effort?' Armed with this knowledge, we can work **with** our teachers to make improvements.

Similarly, as a School Education Director or Regional Director, if we want to improve the experience and outcomes for our principals and teachers, then we can begin by **asking** them to help us to identify 'what is getting in the way of them doing a superb job?' and 'what is creating lost opportunity, frustration and wasted effort?' Armed with this knowledge, we can work **with** our principals and teachers to make improvements.

Dr. Tribus expressed it this way:



Myron Tribus, Will Our Educational System Be The Solution or the Problem?, (1998), available at http://deming-network.org/deming_tribus.htm

Figure 12. Redefining the job of everyone in education

4. Get to work, improving systems

The quality improvement tools, strategies and methods provide the means, the 'how to', by which we can make things better.

In particular, the Plan-Do-Study-Act (PDSA) cycle provides a structure for our approach to improvement. The tools enable us to work collaboratively through the steps, using data to guide us. Figure 13 is derived from Dr. Deming's explanation of the cycle. The PDSA cycle can answer the question 'by what method do we improve things around here?'

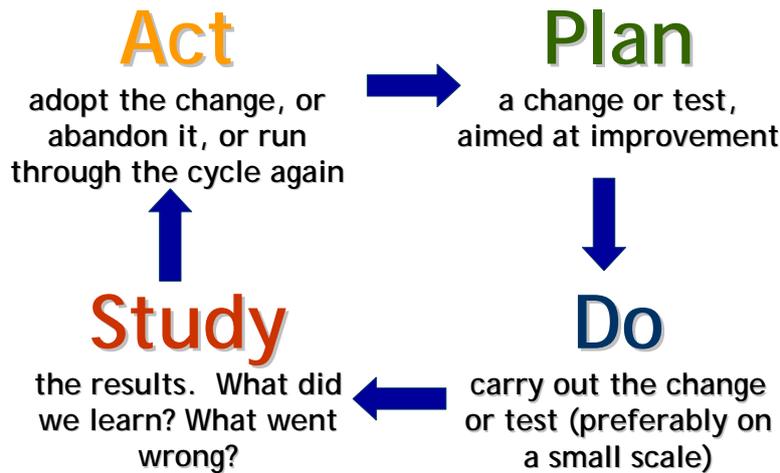


Figure 13. The Plan-Do-Study-Act cycle for learning and improvement

Evidence that the Quality Approach Works

Before we illustrate what the Quality approach looks like in practice in education, let us examine the data to see if the evidence suggests the approach works.

In Industry...

Dr. Deming and Dr. Tribus have had a major influence on the Quality improvement movement around the world. In 1987 a team of quality improvement experts in this country developed the first Australian Quality Awards Criteria. They were unaware that in the USA a team was establishing the US version of the same thing, the Baldrige criteria. Both teams studied carefully the work of Dr. Deming and others, and both took counsel from Dr. Tribus.

Today, over 170 countries have quality improvement frameworks derived from this early work. The current Australian version is called the Australian Business Excellence framework. Recognition with a Baldrige or Australian award is a big deal. The evaluation process is rigorous, and the recipients must demonstrate solid evidence of sustained improvement over time.

Australia

Research conducted with Australian organisations in 1999 demonstrated a significant positive correlation between the depth of deployment of the *Quality Improvement* approach, and the key performance indicators of organisations that had applied for Business Excellence recognition (Figure 14).

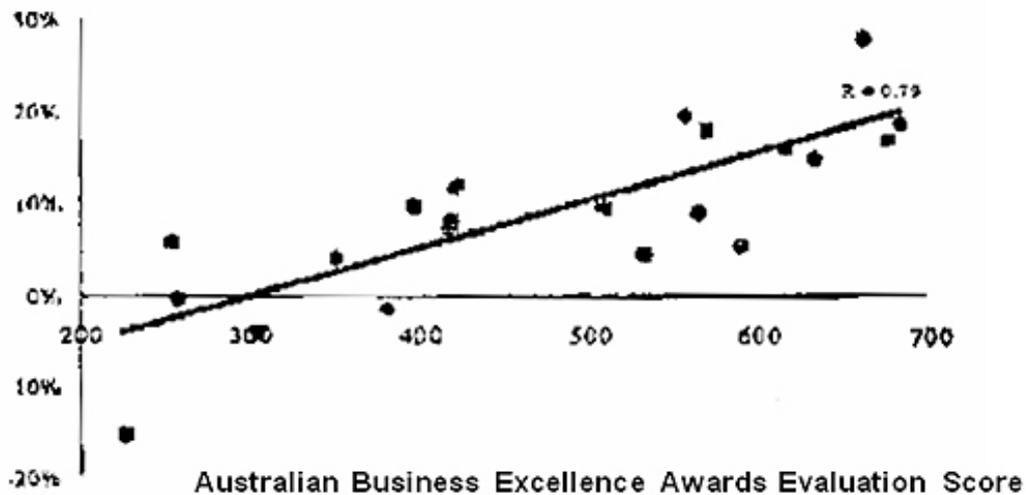


Figure 14. Scatter Plot - Australian Business Performance Improvement and Quality Improvement (Business Excellence) Deployment

United States of America

The US Baldrige organisation has conducted longitudinal research into the impact of *Quality Improvement* on organisations, by assessing the stock market performance of *Quality* award winners over time. The research, conducted from 1994 to 2004 consistently showed that organisations applying the *Quality* approach out-performed like organisations by a factor of as much as six times.

In 1991, the US General Accounting Office conducted a review of the impact of *Total Quality Management* practices on the performance of US organisations. The review examined twenty companies that were among the highest scoring applicants for the *Malcolm Baldrige Award*. The research showed overall improvement in performance including employee relations, productivity, client satisfaction, market share and profitability.

In Education...

Where it started...

Mt Edgecumbe High School - Alaska

While teaching at Mt Edgecumbe High School in Sitka, Alaska, David Langford became aware of the teachings of Dr. Deming. He the applied basic statistical tools to teach students to monitor their own progress and begin to take responsibility for their learning. Over time, the approach was so effective that others in the school became interested, and within a few years, the whole school was attempting to apply Dr. Deming's ideas in totality.

In November 1990, Dr. Tribus visited Mt Edgecumbe to see what David Langford and his colleagues were doing. His reaction was one of amazement and admiration. At Mt Edgecumbe, Dr. Tribus saw, for the first time, Dr. Deming's ideas applied to education - with dramatic results.

David Langford is now a writer and consultant on quality in education. During his four day Quality Learning Seminar, he describes, in detail, his experiences and the application of Deming's philosophy to education. David Langford usually visits Australia at least once each year.

Baldrige Award for Quality in Education

In 1999, the US Baldrige award was expanded to include an education category.

Chugach School District was the first recipient of a Baldrige award for education in 2001. Every student is expected to master the same rigorous academic standards. Students work through each standard at their own pace. The district is isolated and remote with a high Native Alaskan population. Examples of their achievements include:

- Achievement test scores moving from the bottom quartile to an average of 72nd percentile in five years.
- One hundred percent of graduates make a successful transition to further educational opportunities, up from near zero.

Subsequent Baldrige recipients show similar dramatic and sustained improvements.

Leander Independent Schools District

In 2007 the Leander Independent School District (LISD) was responsible for the learning needs of almost 24,000 students. The district is the fastest-growing school district in Texas, with real estate purchased by parents for the main purpose of ensuring their child's enrolment at one of the district's schools.

The district has been applying the *Quality Improvement* approach since 1994 across all of its twenty-seven schools. David Langford played a pivotal role in helping the district begin its improvement journey, and continues to coach leadership and provide training to the district.

The following examples of the district's data and comparative test scores demonstrate the significant improvement achieved between 1994 and 2001 (Figures 15 and 16).

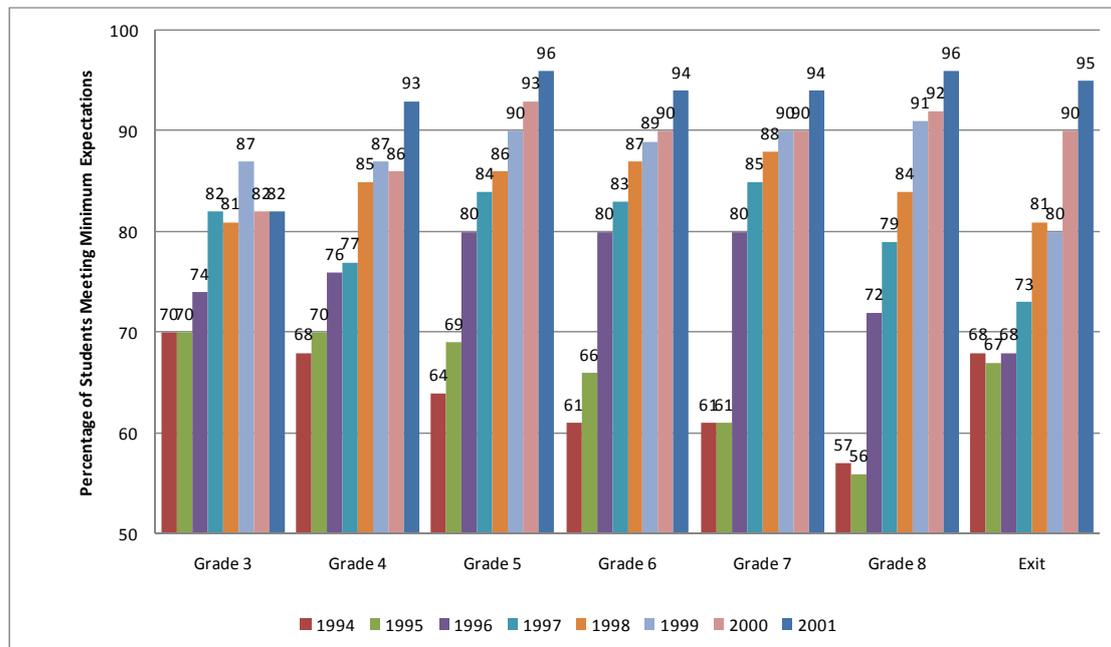


Figure 15. LISD Improvement in Math Test Scores

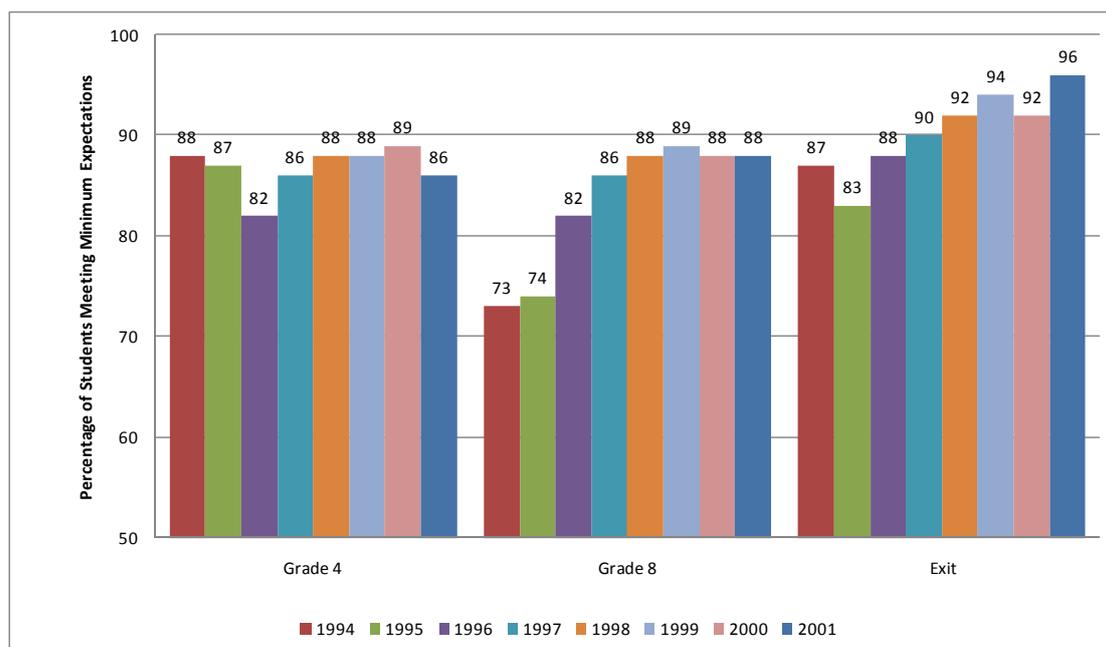


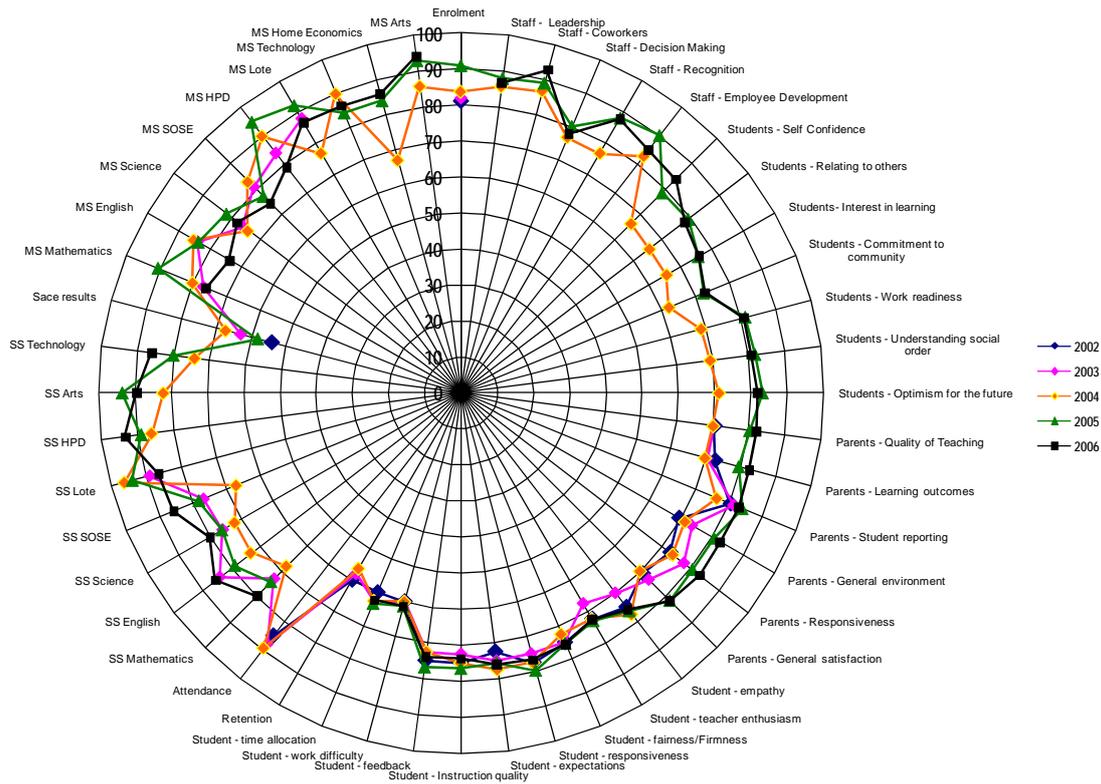
Figure 16. LISD Improvement in Writing Test Scores

Seaford 6-12 School - South Australia

Seaford 6-12 school is a purpose built middle school and senior school in South Australia. It commenced a quality improvement approach in 2002, with the support of David Langford and Quality Learning Australia. By 2007, the school had achieved:

- Between 5% and 19% improvement in academic achievement across the SACSA curriculum learning areas
- 30% improvement in student retention – particularly boys
- 65% decrease in student management problems
- Between 10 % and 12% improvement in student social outcomes data
- Between 8% and 12% improvement in every aspect of parent opinion survey
- Between 5% and 17% improvement in staff psychological health survey data.

Seaford 6-12 School reports its key performance indicators as a Radar Chart, which is shown as Figure 17.



**Figure 17. Seaford 6-12 School, South Australia.
Key Performance Indicators reported
as a Radar chart**

The most recent data continue to show ongoing and sustained improvement.

In 2007, the school was awarded the inaugural Medal of Distinction for Best National Achievement in School Improvement by the Federal Minister for Education, Science and Training.

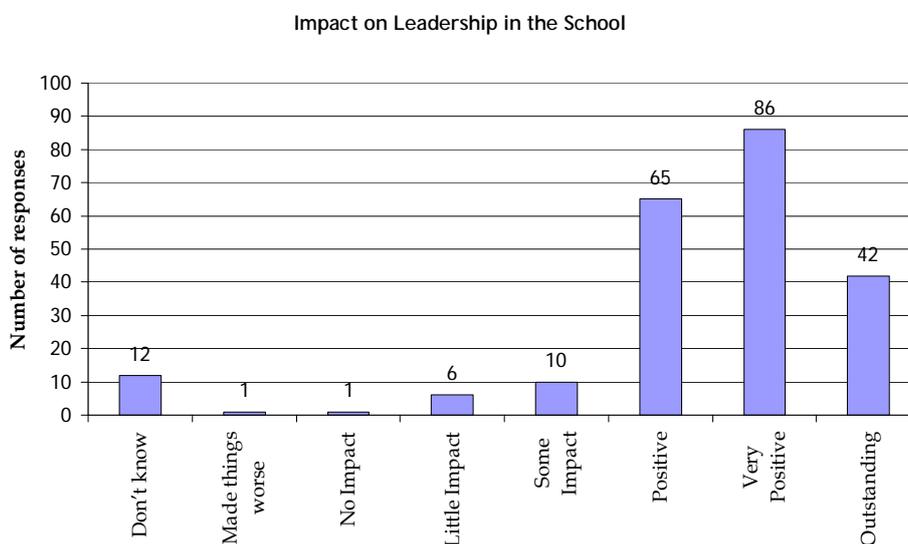
This story and the remarkable achievements are documented as a 22 minute case study video, which is included on Volume 2 in our Quality Learning Case Study DVD series.

Quality in Schools Survey

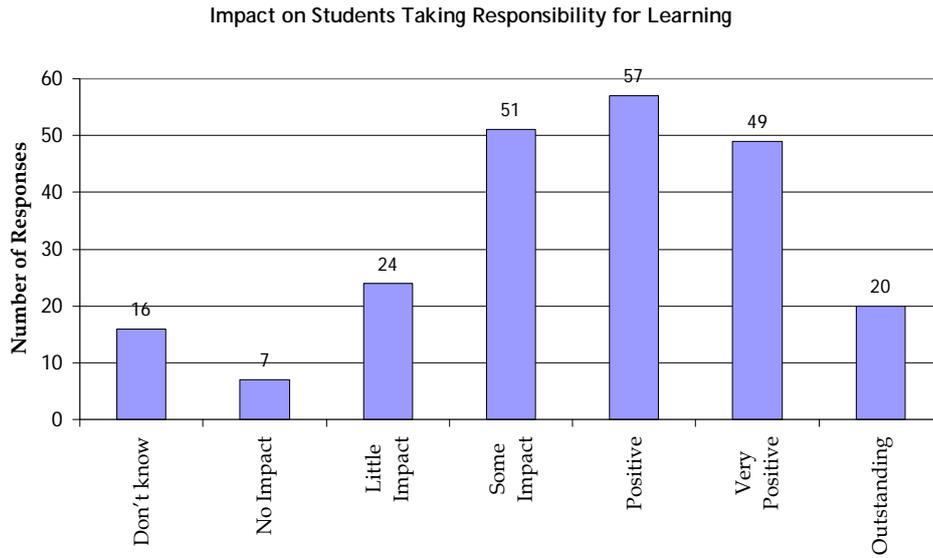
A survey into the perceptions of participants as to the impact of the *Quality in Schools* programs in Victoria and South Australia was conducted by Quality Learning Australia (QLA) in 2005. The survey was designed to explore the nature and impact of participation in the programs and the extent to which benefits had been sustained by the school. Schools were asked to respond to a series of qualitative and quantitative questions derived from the objectives of the program. Data were collected from respondents by telephone interview.

Findings showed respondents were generally very positive about their experience with the program, and reported significantly positive responses with respect to the impact of the program on:

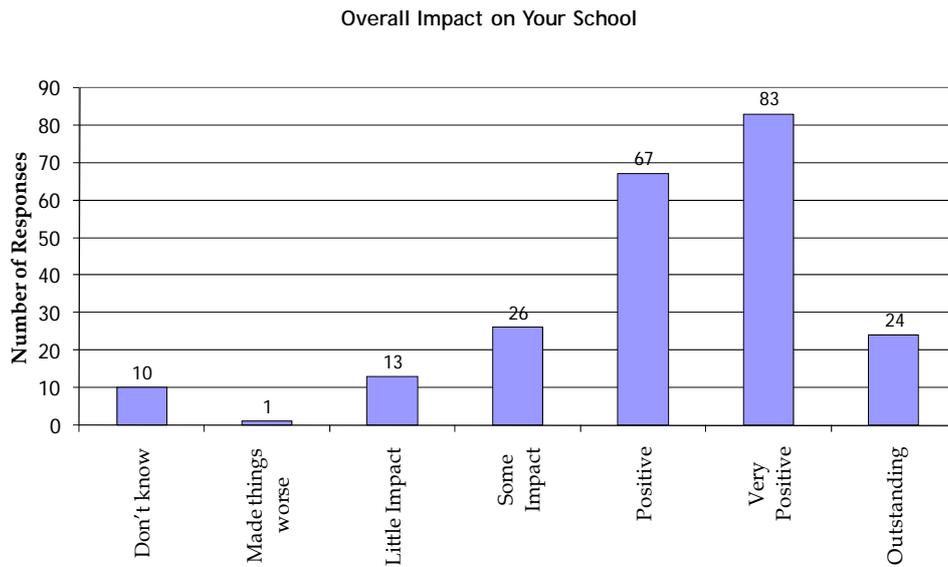
- school leadership (Figure 18)
- students taking increased responsibility for their learning (Figure 19)
- the development of a culture of continuous improvement
- continuing to apply what was learned
- the overall impact of the program (Figure 20).



**Figure 18. QLA Survey Results 2005:
Impact on Leadership**



**Figure 19. QLA Survey Results 2005
Student Responsibility for Learning**



**Figure 20. QLA Survey Results 2005:
Overall Impact of Program**

A full report of the findings from this study is available from the QLA web site at: http://www.qla.com.au/papers/QLA_QISP_Report.pdf

Doctoral research

In 2008, as part of a doctoral research project, one of the authors of this paper, Jane Kovacs, collected data from a random sample of schools that had participated in the Quality in Schools initiative in Victoria between 1997 and 2002. Data were also collected from a control group of schools. The research was designed to investigate the impact of Quality Learning on education.

The study measured the deployment of the Principles of Quality Learning, and collected data on school key performance indicators, including stakeholder perceptions and student learning outcomes. Qualitative data was also used to assess views on school excellence, as well as the forces driving and preventing improvement in schools.

The deployment was measured using a series of matrices (very similar to those we now use with schools in our Quality Learning School Self Assessment). The assessment involves staff reflecting upon one matrix for each of the 12 principles of Quality Learning. Descriptors map progress through rudimentary application of the Quality Learning philosophy to a deep and mature application in the activities and behaviour of the school. Schools allocate a rating between 1 and 6 for each principle. More importantly they engage in dialogue about the school leadership and management systems, including their strengths and opportunities for improvement, which inform planning. Improvements can be tracked over time.

Figure 21 shows a typical evaluation outcome for a school that may be just commencing to learn about this approach. The column graph shows the ratings, from 1 to 6, for each of the twelve principles as assessed by teams of staff at the school. Figure 22 shows the evaluation results for Seaford 6-12 school.

..... High School, July 2006
Quality Learning School Self Assessment Results

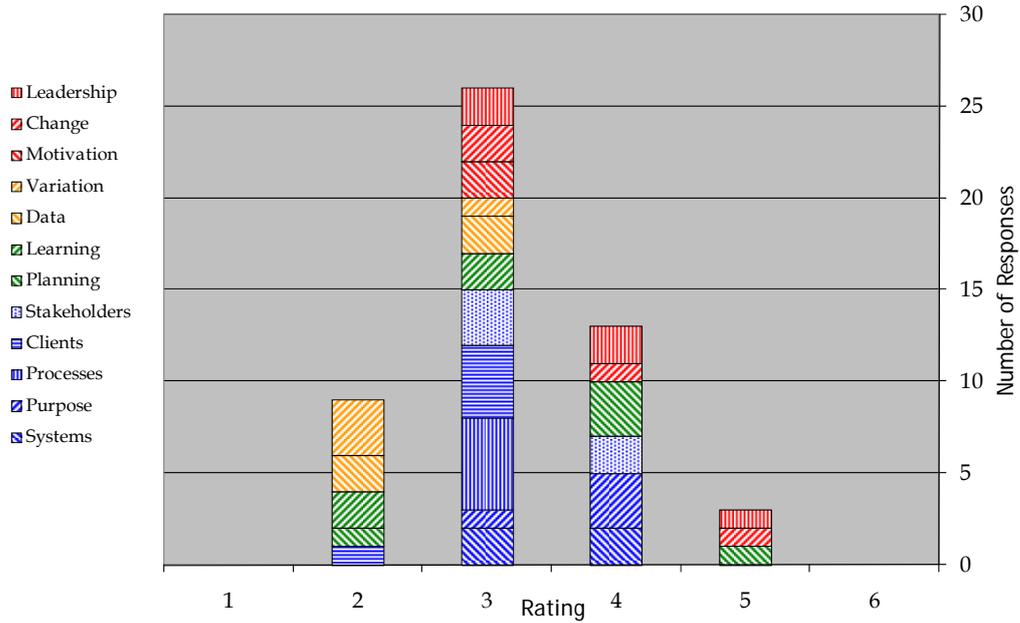


Figure 21. Typical school self assessment results

Seaford 6 - 12 School, June 2007
Quality Learning School Self Assessment Results

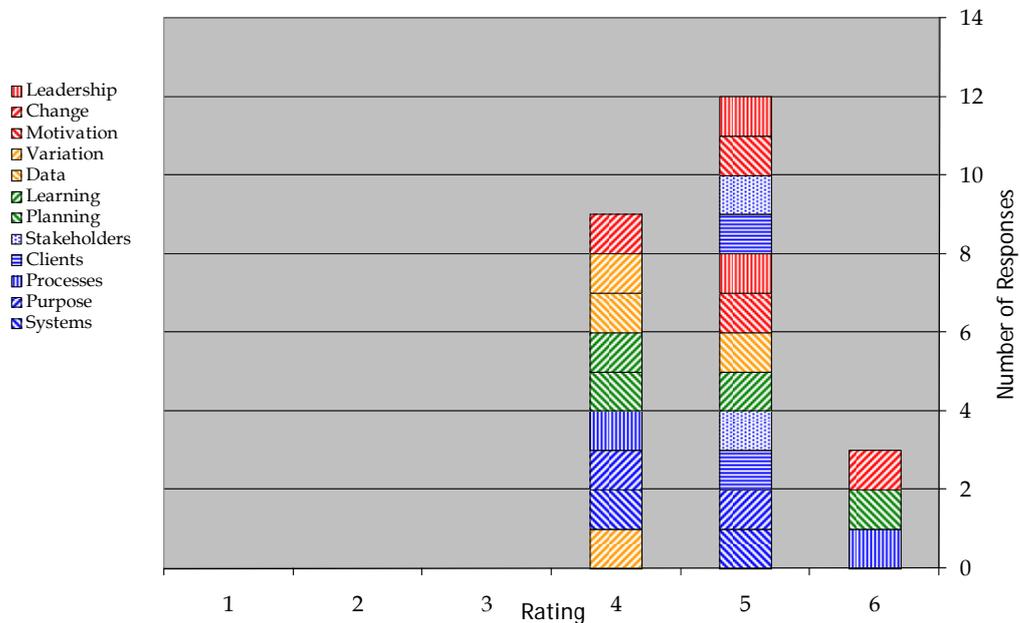


Figure 22. Seaford 6-12 school self assessment results 2007

Research finding

The following findings have been made:

1. There is a significant, positive correlation between deployment (in 2008) and staff satisfaction (in 2005). (Figure 23)
2. There is a greater deployment of the Principles of Quality Learning in the schools that participated in Quality in Schools than those that did not (the control schools). Furthermore, the evidence of deployment is still evident up to nine years later.
3. The following Interaction Charts (Figures 24 to 30) illustrate the improvement achieved over the years 2003 to 2005 by Quality schools compared to the reported state average for other schools in the same *Like School Group* for each of the selected key performance indicators. They show an overall trend in improved performance for the Quality schools compared to that of *Like* schools.

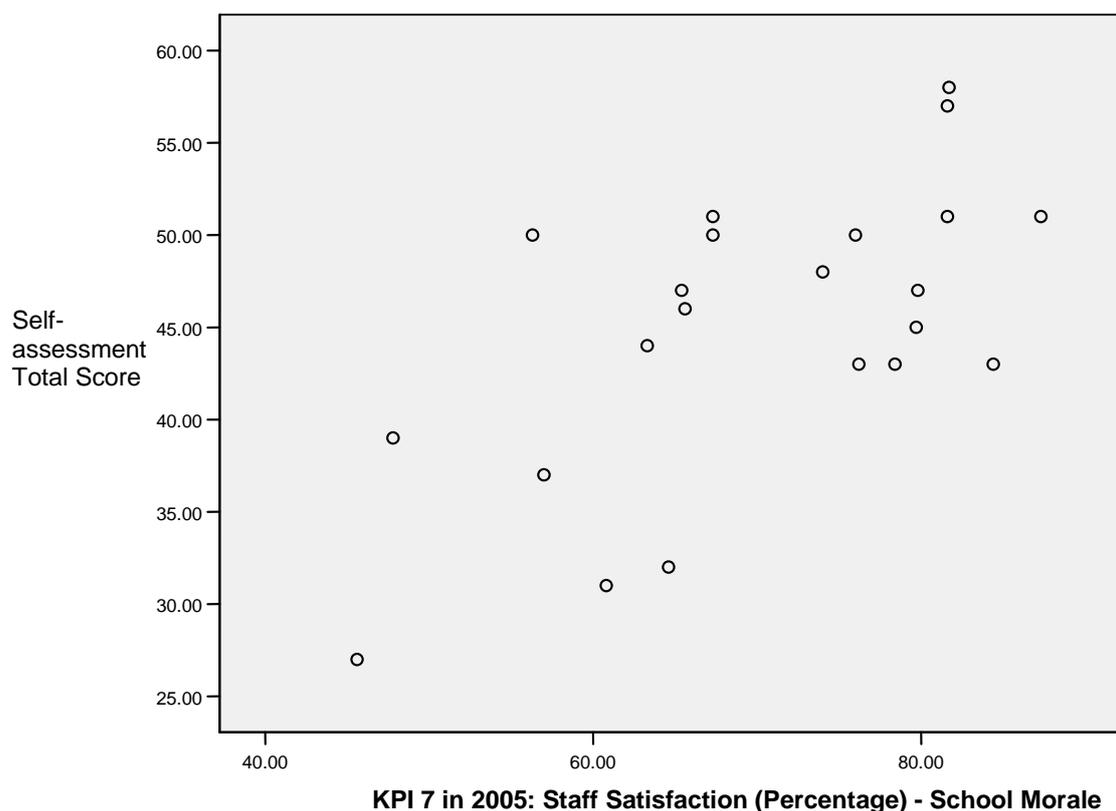


Figure 23. Scatter Plot – Deployment of Quality Improvement: Total Self-assessment Score 2008 and Staff Satisfaction 2005

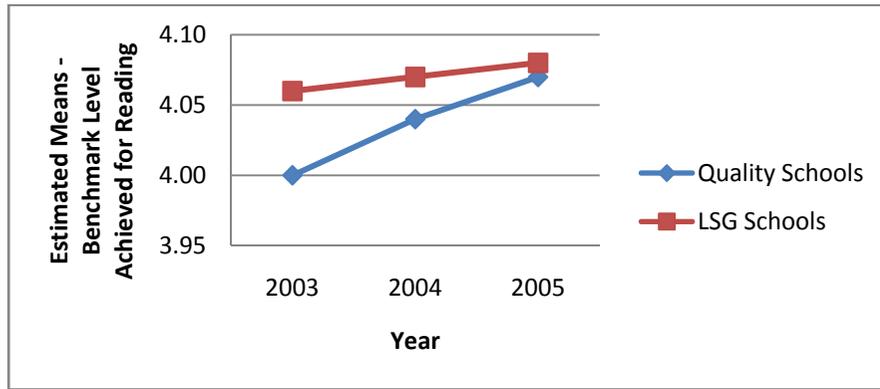


Figure 24. Interaction Chart: Quality and Like School Improvement Reading 2003 to 2005

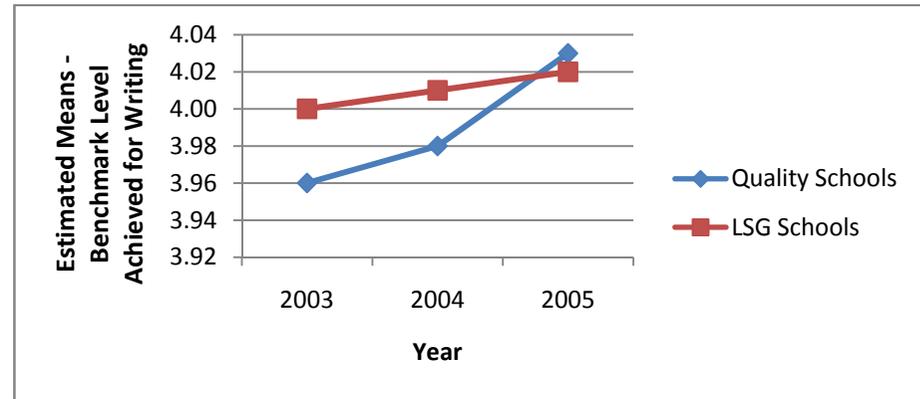


Figure 25. Interaction Chart: Quality and Like School Improvement Writing 2003 to 2005

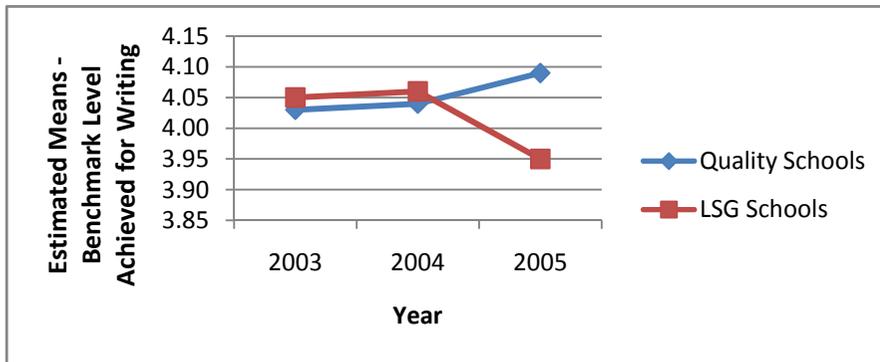


Figure 26. Interaction Chart: Quality and Like School Improvement Number 2003 to 2005

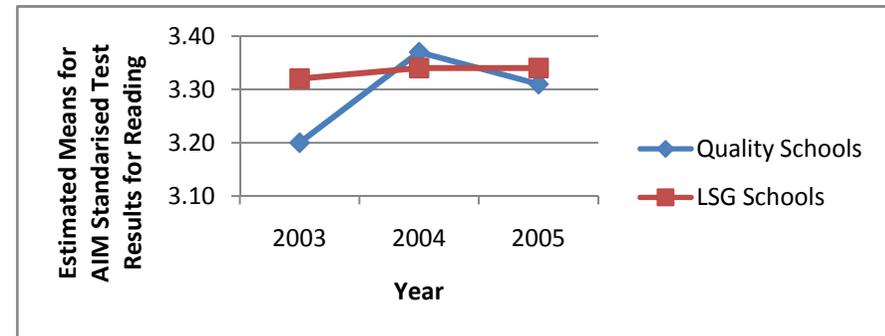


Figure 27. Interaction Chart: Quality and Like School Improvement AIM Test Reading 2003 to 2005

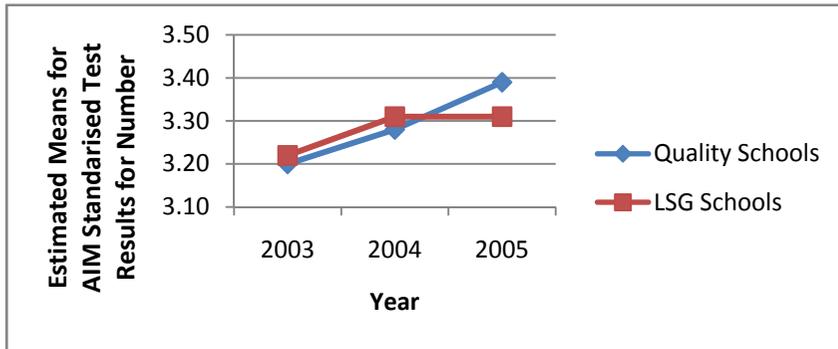


Figure 28. Interaction Chart: Quality and Like School Improvement AIM Test Maths 2003 to 2005

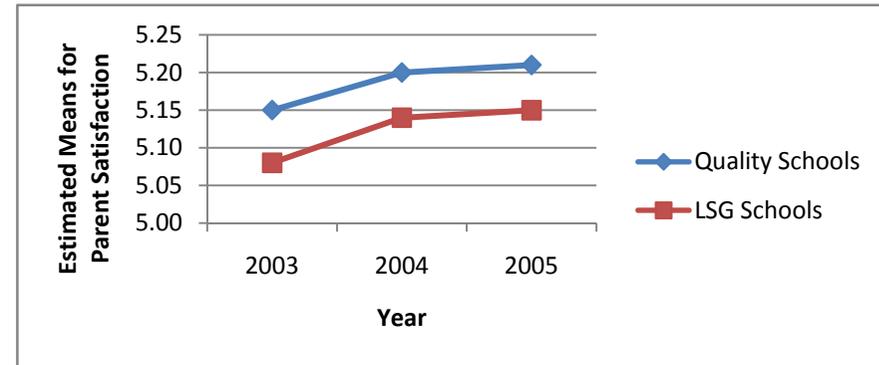


Figure 29. Interaction Chart: Quality and Like School Improvement Parent Satisfaction 2003 to 2005

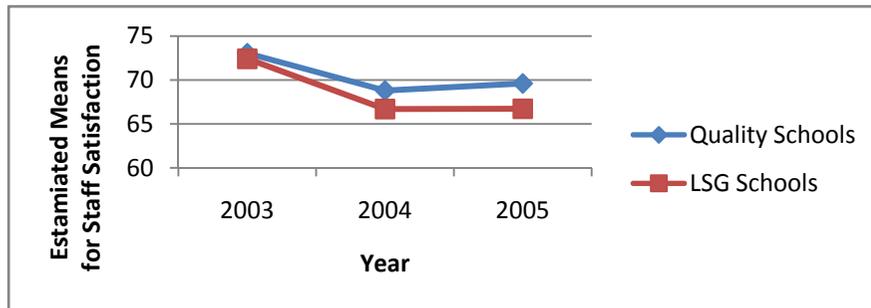


Figure 30. Interaction Chart: Quality and Like School Improvement Staff Satisfaction 2003 to 2005

In Summary

The evidence from Australia and the USA show that there are shining examples that this approach can deliver significant improvements. Specific school and district examples can be highlighted and we are progressively seeing more of these examples emerging.

Improving Systems of Learning

We have shown that the Quality approach calls upon each of us to redefine our job to that of improving the system for which we are responsible, with the help of those working in the system. We have also presented evidence that demonstrates that when we adopt the Quality approach, things do improve.

We therefore propose that:

It is the job of everyone in education to continuously improve the system of learning for which they are responsible, with the help of those working in the system.

In this section, we aim to clarify what this means then describe what it can look like for teachers, students and administrators.

Redefining the job of Teachers and Students

What does this mean?

The job of the teacher 'teaching the kids' and 'getting through the curriculum' becomes '**to continuously improve the system of learning for which I am responsible**'.

What is meant by 'system of learning'?

Teachers are responsible for a wide range of processes within a school and their classroom(s). These processes can include: programming, lesson planning, resource and equipment planning, instruction, assessment, testing, feedback to students, mark books, running records, reporting to parents, and so on. Collectively, these processes comprise a system, the aim of which is to help students learn. Thus, collectively, these processes comprise the system of learning for which the teacher is responsible.

Notice that the emphasis here is on the system of learning, not the system of teaching. While quality teaching is necessary for good quality learning, **the aim is to improve the quality of learning**. The quality of teaching can only be judged by the quality of the learning that results from it. Of course the process of teaching, however you choose to define it, is a key process within the system of learning.

What does 'continuously improve' mean?

When most teachers see 'improve' and 'learning' so close together in the same sentence, they immediately think of student achievement. Indeed, we are aiming for improvements in student achievement. But all teachers contribute to improvements in student achievement, to varying degrees.

One only needs a pulse and we can improve achievement.

Prof. John Hattie, Visible Learning: A synthesis of over 800 meta-analyses relating to achievement, 2009

Improving student achievement is not what is meant by improving the system of learning. For a teacher, improving the system of learning means:

The systems and processes that I use to help students to learn today result in learning that is deeper, broader, more effective, more rapid and more joyful than I attained previously, and I have hard data to prove it.

Continuous improvement means being able to demonstrate this on an ongoing basis. In other words, I can demonstrate that I am helping more students to learn to a higher degree than I did last week/term/semester/year.

Such improvement cannot be achieved by only doing the daily work of working in the system. Teachers must also work on the system.

What is meant by
'with the help of those working in the system'?

Students work in the system that the teacher manages. Students know best what inhibits their learning and what helps their learning. Teachers only think they know best. For a teacher to improve her system of learning, she must engage in dialogue with the students about things such as: the aim of their learning, their shared vision for high quality learning, the barriers to their learning, the things that aid their learning, how they will judge the quality of their efforts, and so on. The dialogue is never complete. Students and teacher can then learn together about the system of learning for these students, and then learn together how to improve it.

What does this look like in practice?

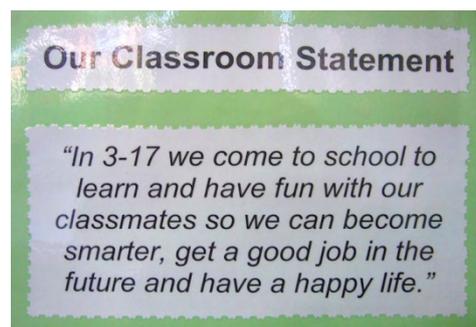
Clarify the Aim

Most of the rapid learning of very young children is tied to purpose and vision. They learn to ride a bike to play with friends who have bikes... They learn new skills because they want them...

But when children enter schools, the system often presents them with new purposes unrelated to their own desires and aspirations - to please teachers, to get good marks on assignments, to receive awards and to be ranked high... Older children complain about the irrelevance of schoolwork to their lives and future... What they don't, or can't, communicate in words, students often communicate through disruptive or disengaged behaviour

Senge et al, Schools that learn, 2000, p22

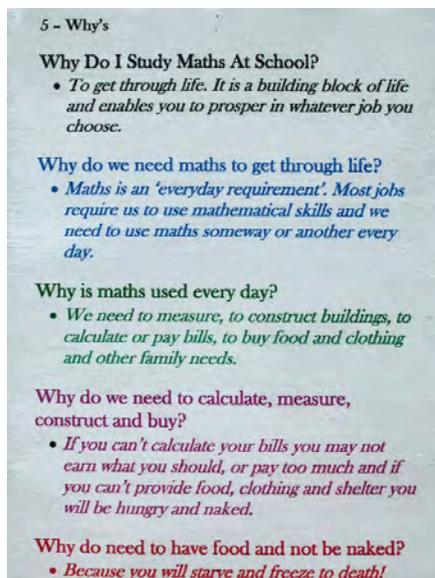
Teachers and students together discuss the purpose of their learning. This is undertaken at the overall level, 'why do we come to school?', and at the specific level, for example 'why do we study text types?'



**Figure 31. Plenty Parklands Primary School, Victoria
Year 3 class mission statement**

Figure 31 shows the outcome from a year three class considering why they come to school.

The *Five Whys?* tool can be very useful for this purpose. Figure 32 shows the results of a year 8 class using the *Five Whys?* tool to reflect upon why they learn mathematics.



**Figure 32. Macleod College, Victoria
Year 8 class.
Using the Five Whys? tool to clarify purpose**

A Capacity Matrix can be used to make explicit what students want and need to know, understand, value and be able to do. Once the curriculum outcomes and student interests are articulated in this way, students can plan their learning, monitor their progress and play a lead role in reporting to parents. Capacity matrices make it easier for students to work at their own pace and achieve quality outcomes. In Figure 33, Tahlia, a year 2 student, proudly explains the joy she derives from tracking her learning progress in spelling.



**Figure 33. Hackham East Primary School, South
Australia. Year 2 Spelling capacity matrix**

Quality Criteria are developed with students to facilitate student self assessment of the results of their efforts. These criteria provide the vision of excellence and enable students to scaffold their own efforts towards meeting the criteria.



Figure 34. Plenty Parklands Primary School Victoria, Quality Criteria, Year 1

Work on the System

The quality improvement tools provide simple, efficient and effective ways for individuals and groups to work and learn together to improve the system.

A System Map can be used to develop a shared understanding of the key stakeholders in the system of learning. It is also used to agree and document the purpose, vision and values for the system. The System Map also clarifies the key processes that comprise the system along with its measures of success.

Figure 35 illustrates a year 6 class System Map, and Figure 36 shows how this can be simplified and adapted, in this case for a year 2 class.



Figure 35. Plenty Parklands Primary School, Victoria, Year 6 Class System Map



Figure 36. Roxburgh Homestead Primary School, Victoria. Year 2 student describes the class system map: their 'Learning Machine'



Figure 37. Plenty Parklands Primary School, Victoria. Pack up process flow chart

Process flow charting, in particular the creation of deployment flow charts, ensures all involved in the classroom processes are clear on the steps, order and responsibilities within the flow charted processes. This result in considerable time saving. One very experienced primary teacher saved 20 minutes per day improving the lining up process, after which she realised she had wasted the equivalent of an entire year of her career in poor lining up processes.

Flow charts also enable students to accept greater responsibility, as it is clear what they have agreed they will do. With flow charts in place, it can be common for students to arrive in class and commence work without waiting for instructions from the teacher. Relief teacher love these classrooms too!

Refocus relationships

David Langford developed, with his students, a continuum to describe the nature of the relationship between teacher and student (Figure 38). One only has to take a moment to reflect upon the characteristics of the best students we have taught, to recognize that, with them, we were operating down the 'enable' end of the spectrum.

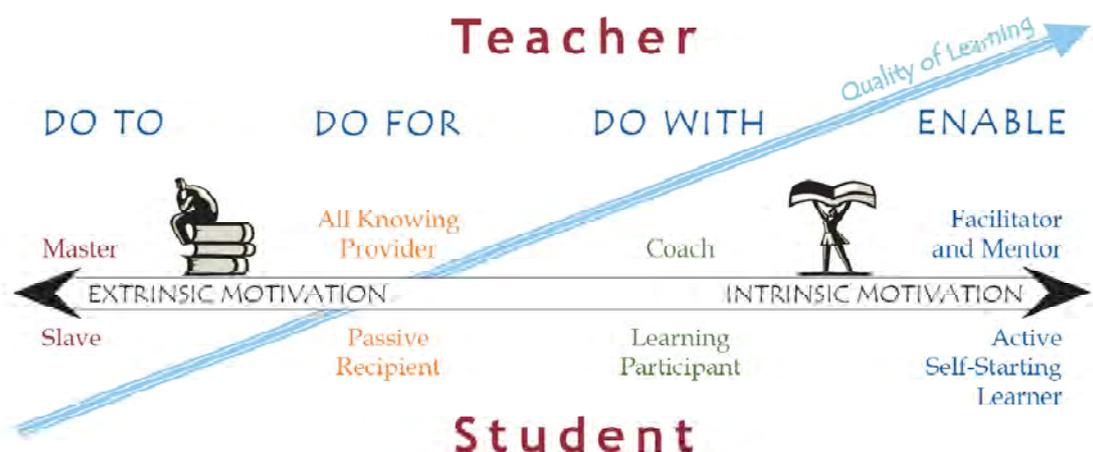


Figure 38. Teacher – Student relationship continuum

Of course, the model is situational: there are times when it is appropriate to direct and 'do to' students, for example, when students are putting their own or others' safety at risk. However, if we wish to have all our students behaving as active, self starting learners who demonstrate a 'yearning for learning', then this must become an explicit educational goal. And we must consciously work towards the goal. Daily.

The Quality Learning approach calls for us to create systems and processes that equip all students to move progressively towards the 'enable' end of the spectrum. Myron Tribus is very clear on this:

If we want students to be responsible for their learning, we must first make the response-able: able to respond to the challenge of responsibility.

As students are equipped with the philosophy, tools and methods, they increasingly contribute to the improvement of their learning system, working collaboratively with their teacher.

Get to work, improving systems

The Plan-Do-Study-Act (PDSA) cycle is based on the same foundation as Action Learning. PDSA provides a deliberate, planned and structured approach to bringing about improvement in outcomes. The cycle requires that individuals and teams are clear about what they are seeking to improve, ascertain their vision of excellence, study the current situation to identify the causes (not just symptoms) that must be addressed, and determine how improvement will be measured.

Figure 39 illustrates the use of the PDSA cycle by a year 1 student to improve his writing. Figure 40 illustrates use of the PDSA cycle by a class over a semester to improve their community park.



Figure 39. Roxburgh Homestead Primary School, Victoria. Jordan explains how he uses the PDSA cycle to improve his writing



Figure 40. Caragabal Public School, NSW. Students show how they used the PDSA cycle to improve the community park

The PDSA cycle explicitly calls for the development of a theory for improvement that is unique to the situation being improved. When applied with discipline, the cycle prevents individuals and teams from jumping to the first solution, blindly copying others' practices and programs and making changes without measurement to determine the degree to which the changes are improvements.

The quality improvement tools support improvement efforts. They help with planning, identifying causes, prioritising, collecting and reporting data, and communicating the lessons learned through the improvement activities.

Figure 41 illustrates the use of a Gantt chart in planning a Year 12 tourism project.



**Figure 41. Seaford 6-12 School, SA.
Claire uses a Gantt chart to help her plan a project**

Figure 42 shows a Force Field Analysis conducted with a year 9 mathematics class. At the end of one lesson, students were asked to identify the forces that help them learn in mathematics (the driving forces) and the forces that inhibit their learning (the restraining forces). These responses were collated into a single list and given to the students at the conclusion of the following lessons. Students used the Nominal Group Technique to prioritise each list for them personally, and these results were collated after the lesson. The number against each identified force is the total number of points allocated by the students to that force. The more points, the more significant the force to the members of the class. These results were then discussed with the students and improvement ideas sought.

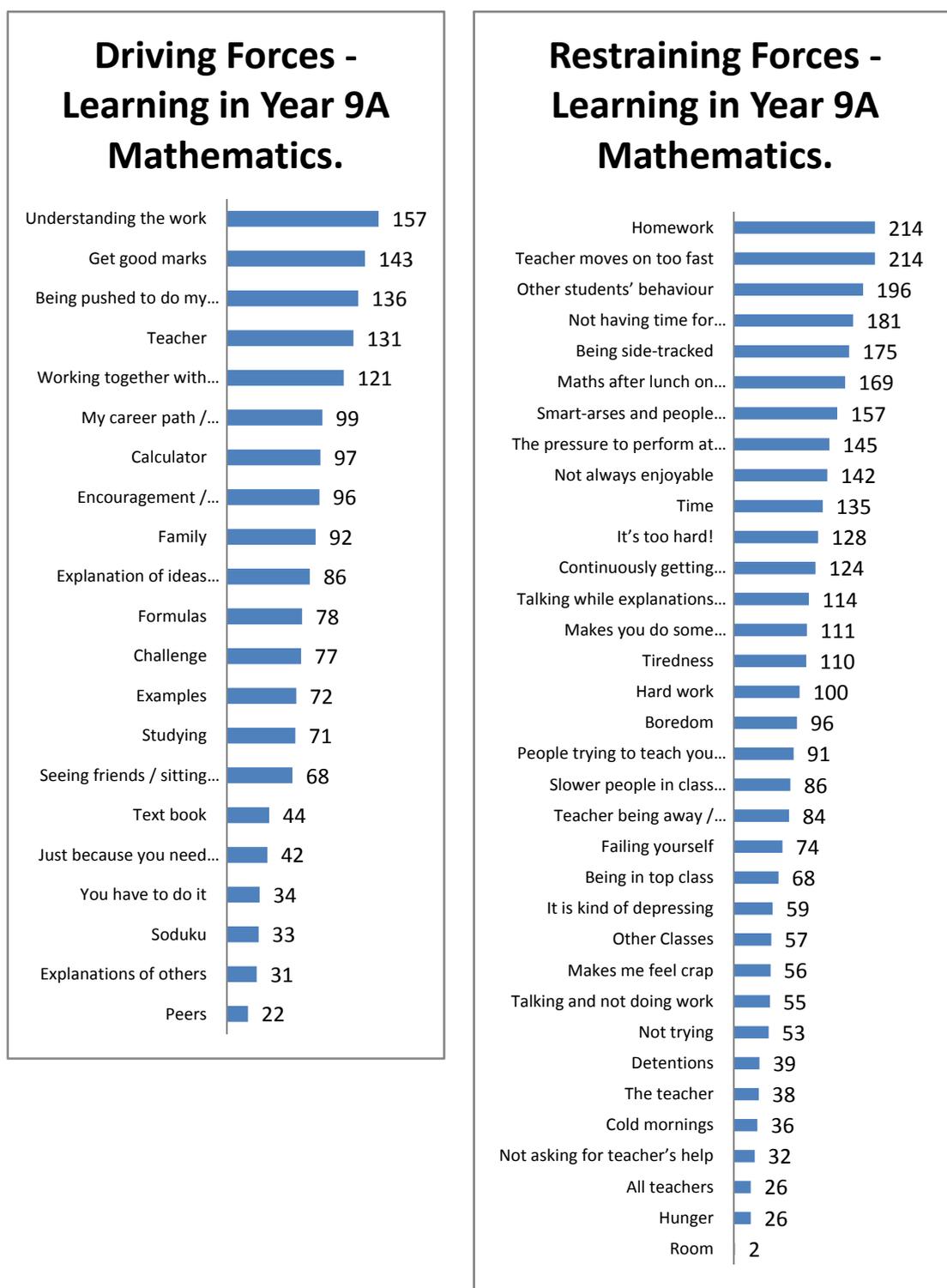


Figure 42. Force field analysis. Year 9 Mathematics

In summary

The overall result is very similar to what Prof. John Hattie describes as 'visible teaching and learning'.

*Visible teaching and learning occurs when
learning is the explicit goal,
when it is appropriately challenging,
when the teacher and the student both (in
their various ways) seek to ascertain
whether and to what degree the
challenging goal is attained,
when there is deliberate practice aimed at
attaining the goal,
when there is feedback given and sought,
and
when there are active, passionate, and
engaging people (teacher, student, peers
and so on) participating in the act of
learning.*

*Prof. John Hattie, Visible Learning: A synthesis of over 800
meta-analyses relating to achievement, 2009, p22*

Redefining the job of Administrators

What does this mean?

Who do we mean by administrators?

In simple terms, administrators are those who have responsibilities for systems of learning, but are not teachers. Administrators can include principals, School Education Directors (SED), Regional Directors, Directors of Schools and even Government Ministers.

Thus, their new role emerges:

It is the job of the administrator to continuously improve the systems of learning for which they are responsible, with the help of those working in those systems.

In this context,
what is meant by 'systems of learning'?

Administrators are responsible for a wider range of processes than teachers. Administrators must pay attention to: finance and budgets, facilities, maintenance, technology, insurance, compliance, staffing, recruitment, induction, enrolment, planning, reporting, and on it goes. These processes are all still aimed at improving the quality of learning, and in this sense are the systems of learning.

What does 'continuously improving' mean,
in this context?

In this case, we are looking to achieve demonstrable improvement in these processes over time. Improvement is usually demonstrated by reductions in time taken to complete the tasks, reductions in the number of errors made, increases in volume and/or reductions in cost: with the aim of improving the quality of learning.

Continuous improvement means being able to demonstrate these improvements on an ongoing basis. In other words, I can demonstrate that the processes for which I am responsible work better, faster and cheaper than they did previously, they improve the quality of learning and I have the data to prove it. Administrators, too, must work on the system as well as in the system.

What is meant by
'with the help of those working in the system'?

Students know (better than teachers) what are the barriers to improvement in their learning. So too, teachers, with the help of their students, know better

than principals what are the barriers to improvement in their classroom learning systems.

Similarly, principals will know better the barriers to improvement in their schools much more clearly than a SED or Regional Director.

The model presented in Figure 38 can just as easily be relabelled to be:

- Principal – Teacher
- SED – Principal
- Regional Director – SED

relationship continuum. We seek to improve the quality of learning by enabling our people with the philosophy, skills and experience of improvement.

Just as the teacher engages in dialogue with students about improving the quality of learning, so too, the principal engages in dialogue with their teachers about improving the quality of their systems of learning. And so on, up the 'chain of command'.

What does this look like in practice?

Clarify the aim

It is usually the case that the more senior your position within an organisation, the wider your span of influence. Senior leaders become increasingly aware of the widening range of stakeholders seeking to exert influence upon the system, and of the widening diversity of perspectives. Teachers, and some principals, who have not yet experienced the diversity of influencers acting upon systems, can dismiss the decisions and perspectives of senior leaders because they do not appreciate these diverse pressures.

Administrators can find themselves buffeted by demands, expectations and the changing priorities of the system's stakeholders that make it difficult to retain constancy of purpose. These political and organisational demands and expectations can distort the criteria by which system and personal performance is measured, resulting in mixed messages about the aim of the system.

For genuine improvement to be achieved, administrators must become very clear about the aim of education and unwavering in their passion for improving the quality of learning.

Work on the system

The more senior the administrator, the greater the breadth of influence and the larger the system for which they have responsibility. In the day-to-day bustle of an administrator's life, much time is spent managing the complexity of the diverse range of stakeholders' needs across the span of responsibility

(system) of the administrator. A good deal of energy is expended managing stakeholder expectations and seeking alignment to the aim of the system.

Within these challenges, it is in the very nature of the role that administrators work on improving systems.

A System Map can be very helpful in clarifying, explicitly with the stakeholders, what is the system being managed. Figure 43 illustrates a System Map for a small NSW rural primary school.

Refocus relationships

Administrators refocus the relationship from one of directing staff in what needs to be done, towards working with staff to improve systems. This engages the administrators in actively listening and seeking dialogue with their people to identify and remove barriers to improvement.

One of the deliberate goals of administrators is to build capacity in their people in the philosophy, tools, methods and experience of improvement.

The new relationship becomes one of learning together, not giving directions.

Get to work, improving systems

Most administrators want to see things improve. In the absence of 'profound knowledge', the desire for improvement frequently results in: unfocussed activity, good ideas of today, and copying others' programs and practices. None of these things will deliver sustainable improvement: they only increase pressure and make things worse.

What is needed is a deliberate, planned, disciplined and structured approach to improvement, such as the PDSA cycle. Administrators, who lead demonstrable improvement, follow such a structured process, as they work with their people to achieve improvement. They become experts and leaders in the improvement process and focus on building this capacity in their people too. Figure 44 illustrates a PDSA storyboard from a Victorian high school that set about improving 'student work ethic'.

In Summary

Quality learning calls for everyone to work together to improve systems. Everyone is a leader of a system and leaders focus upon clarifying the aim, working with their people to identify and remove barriers, documenting and improving processes, using data to measure improvement and driving out fear. They listen and enable, they do not command and control.

System Map

Who are the **SUPPLIERS** (individuals and organisations who provide inputs) to the organisation?

- Mail Truck - Menindee Freight
- Bus Driver - Sunraysia Bus Lines
- Books In Homes
- Active After School
- Local Shops
- School Dental Van
- Toy Library
- Emergency Services - Fire, Police, Ambulance
- Department of Education
- YMCA - Swimming / Pools
- Country Energy
- Maintenance Providers e.g. Haden
- Quality Sports
- Ellerslie Community
- Parents/Grandparents
- P & C
- Service Clubs
- Tempo - Cleaning
- Small School Network

What are the **INPUTS** (external resources) required by the organisation?

- Mail delivery
- Transport of students
- Book bags & reading books
- Funding for sporting activities and equipment
- Resources for office, teaching and learning
- Dental Hygiene and Health lessons
- Prior Learning, Social experiences and new resources and activities
- Assistance in emergencies, and education
- Policies and funding, resources and curriculum and collegial support
- Access to pool and swimming instructors
- Repairs, maintenance and cleaning of equipment and essential services
- Expertise in skills and coaching of sports
- Food/catering, transport and funding
- Funds, resources and input

Who are the **OTHER STAKEHOLDERS** (those not already listed with a vested interest in the success) of the organisation?

- Government Agencies
- Other Schools
- Politicians
- School Education Director
- Ellerslie Community
- Family

What is the **PURPOSE** (aim or mission) of the organisation?

Palinyewah Public School provides a quality education. Our students learn to be confident, enthusiastic learners with sound values, social skills and knowledge that will enable them to be independent and contribute to the society in which they live.

What is the **VISION** (image of the desired future state) for the organisation?

Our school is a place where learning is fun and we learn in different ways. We feel safe, try new things, are polite and friendly to each other. We are proud of our school.

What are the **VALUES** (qualities to which we aspire in behaviour and relationships) of the organisation?

- Respect** - Valuing oneself and others, and respecting difference and diversity.
- Co-operation** - Working together to achieve a common goal.
- Resilience** - Being positive, persistent and willing to take risks.
- Excellence** - Attain the best possible quality.

What are the **CRITICAL SUCCESS FACTORS** (things the organisation must get right for survival and success)?

- Operational Structures - effective operational structures
- Professional Learning and Professional Practice -
- Quality Improvement- systematic approach to continuous learning
- Team Ethic - effective and valued teamwork which reflects our philosophy and principles
- Collaboration and Improvement- inclusive and effective communication within the school community, district schools and wider network
- Compliance with Regulatory Requirements

What are the **RESULT MEASURES** (indicators of success) for the organisation?

- Student Outcomes in state-wide testing
- Surveys of Satisfaction - Student, Staff, Parents
- Attendance
- School Assessment

Who are the **PEOPLE** (individuals and groups) working in the organisation?

- Principal - Mrs Wall
- Teachers - Mrs Farley, Mr Mercer, Mr Baird, Mrs Reid
- Teachers' Aides - Liz, Keren
- School Secretary - Mrs Strachan
- Librarian - Lyn McMahon
- Active After School - Nicole Radloff, Kirrily McMahon, Trevor Radloff
- General Assistant - Graham Wall

What are the **PROCESSES** (sequences of actions) that enable the organisation to achieve its purpose and serve its clients?

Student Welfare

- Mandatory Reporting
- Transition Points
- Student Welfare Policy
- Supervision
- Attendance
- Special Needs

Curriculum Delivery

- Excursions
- Programming
- Professional Development
- Reporting and Assessment

School Leadership

- Policy Formulation
- Staff Welfare
- School Planning
- Dealing with Complaints, Suggestions and Allegations

Administration

- OHS
- Asset Management
- Responding to Dept. Requests
- Record Keeping
- Promotion of the School
- Finance



Who are the **CLIENTS** (recipients and beneficiaries of the products and services) of the organisation?

- Students
- Parents
- Coomealla High School

What are the **OUTPUTS** (tangible deliverables) from the activities of the organisation?

The education of the student

What are the **OUTCOMES** (benefits to clients and stakeholders) from the activities of the organisation?

By the time each student graduates from Palinyewah Public School they will:

Be academically:

- Have good knowledge in all learning areas
- Be literate and spell well
- Be numerate
- Produce high quality written work
- Express themselves well
- Be capable users of technology
- Understand and use scientific concepts

Be socially prepared:

- Be a functioning member of society

Be lifelong learners, aiming for excellence:

- Be confident and competent in life long learning

Attaining the best possible quality

Figure 43. System Map Palinyewah Public School



Figure 44. PDSA storyboard. Epping Secondary College, Victoria

Conclusion

In this paper we have aimed to show that the current system of education is in desperate need of transformation.

We have shown that Deming, Tribus and Langford provide a way forward that not only describes what we must transform to, but also provides the how to that most models of education reform leave to individuals to discover for themselves.

Another feature of the Quality approach is that the philosophy, tools, methods and language are the same for everyone: students, teachers, principals, support staff and administrators. The application of the common approach does not mean it is a 'one size fits all' solution. It allows for the uniqueness of each individual, classroom, school and system. The same PDSA improvement process can be used by everybody, but the analysis of causes and development of solutions can be as unique as the contexts in which they are required.

The Quality approach recognises something reflective teachers already know: you cannot improve student learning without the support of the students. But it goes further by providing strategies and tools to facilitate this, and take student voice to a new level of active student responsibility.

This paper advocates that:

It is the job of everyone in education to continuously
improve the systems of learning for which they are
responsible, with the help of those working in the system.

We have made the distinction between working in a system and working on a system.

If you don't improve the systems for which you are
responsible, who will?

Finally, we hope we have conveyed the message that it is easy to get started. Where you start will depend on your unique combination of experience and circumstances. We hope, however, that you have found an appropriate next step for you - next Monday.

We hope that you too have a curiosity and fascination to learn more about the Quality philosophy. We also hope you find joy in the learning journey, as we have.

Don't delay. Whatever you do, you are responsible for something! The next steps are yours.