UNIVERSITY OF BATH

DEPARTMENT OF EDUCATION

AN EXAMINATION OF THE MAKING THINKING VISIBLE INNOVATION AT AN INTERNATIONAL SCHOOL THROUGH THE LENSES OF CULTURE AND CHANGE

This dissertation is submitted in accordance with the requirements for the degree of Master of Arts in Education by completion of six taught units and dissertation.

MARY ANN BRUCE

January 2009

Signed _____

ACKNOWLEDGEMENTS

With thanks to my school community, the interviewees and the study group participants.

Thanks to Dr. Ron Ritchhart and the Harvard Project Zero team for inspiring me to act towards my ideals and to try to become a better teacher, and for giving me the tools to enable my students to become better thinkers.

I would also like to thank Gill Hilton for her understanding and friendship throughout this process.

My supervisor, Dr. Paul Toolan, has been a very supportive presence, and I have enjoyed our conversations and greatly appreciated his guidance and wise, timely feedback.

Thanks to my proof readers, Mary Ferguson and Tom Neale for their hard work, patience and advice.

Finally, to Tom Neale, for encouraging me.

Dedication

To all my teachers, of whatever age, past, present and future.

Abstract

This dissertation examines the Harvard Project Zero-based innovation 'Making Thinking Visible' (MTV) at a large international school in Brussels. Focusing on Schein's theories of culture and change, it looks at definitions of culture and at how the MTV innovation might be considered to be sustainable. The study explores the teacher study group as an evolving micro community of 'knowledge-enabling', and other professional development opportunities at the school. It identifies ten fundamental components of the MTV innovation. The paper discusses turbulence, high staff turnover and multiple innovations, and how teachers control their involvement with and learning about MTV. It tabulates Schein's theoretical framework in order to allow scrutiny of the MTV innovation within the culture of an international school.

The hypothesis is that successful institutionalisation of MTV ways of thinking and learning amongst students in the school is partially dependent on a range of cultural needs being acknowledged and met. Schein's theoretical framework consists of eight steps towards psychological safety that enable members of a culture to adapt to new ways of working. This research takes the case of one school, with triangulation from two other similar schools, and analyses documentation and teachers' responses during semi-structured interviews conducted between April and June 2008. The purpose of the interviews was to discover to what extent affective factors enabled or encouraged participation in MTV. The findings reveal which thinking routines were more popular, how teachers articulate the school's vision and their own values, their responses to both informal and formal training in MTV, their involvement, and to what extent they are encouraged by appraisal, teams, coaching,

role-modelling and participation in study groups to implement MTV thinking and learning with students.

The research leads to twelve recommendations for the school which may make MTV more sustainable. It concludes that although school culture is resistant to change, Schein's theoretical framework of psychological safety is a useful tool for school leaders in attempting to help teachers to bridge the idea-action gap and to begin working in more collaborative, thoughtful ways in classrooms.

AUTHOR DECLARATION

1. The author has not been registered for any other academic award during the period of registration for this study.
2. The material included in this dissertation has not been submitted wholly or in part for any other academic award.
3. The programme of advanced study of which this dissertation is part has included completion of the following units:

   Methods of Educational Enquiry

   Education in an International Context

   Educational Discourse

   Foreign Language Learning

   Understanding Learners and Learning

   Managing Educational Innovation
4. Where any material has been previously submitted as part of an assignment within any of these units, it is clearly identified.

Mary Ann Bruce

January 2009

Table of Contents

Chapter 1 Introduction, research questions and context

Introduction

In this initial chapter of my dissertation, I first identify the aims of my research, and my hypothesis about the successful implementation and institutionalisation of my chosen innovation – Making Thinking Visible (MTV). I then outline the purposes of my research and describe my role as MTV coordinator at my international school (School X). I offer five reasons for believing my research to be worthwhile. After posing my four fundamental research questions, I discuss the scope of my research study, giving a brief history of the MTV innovation at my school. This chapter ends with a list of the ten main components of the MTV innovation at School X, and with a statement of my intent that this research will benefit the students and teachers at my school.

Aims

The aims of my research were to analyse the relationship between cultural theoretical frameworks concerned with the implementation of change and the Making Thinking Visible initiative at my school. 'Making Thinking Visible' (MTV) is an approach to creating a 'culture of thinking' (Ritchhart 2003) in an institution where learners become mindful (Langer 1989) of their thinking, and where their thinking is made visible to others through observable documentation. Through the use of charts, mind maps, diagrams and graphic organisers, an individual's or a group's ongoing thinking is developed and supported (Tishman and Palmer 2005). Students and their teachers use reflection, questions, reasoning and many other kinds of thinking to develop observations and to document the process of

their thinking in a messy, yet organised, usually collaborative setting. Teachers develop a repertoire of 'thinking routines' which are short, probing, easy to remember; sequential routines that encourage 'active processing' (Tishman and Palmer). In this research I set out to examine and describe the ten major components of the innovation as they are manifested in School X, a large international school in Brussels, and to critically examine specific organisational cultural dimensions, particularly those categorised by Trompenaars (1997) and Schein (2004), alongside these elements. I wanted to build on my previous investigation into the cultural theory of Hofstede, and House and McQuillan, carried out for the Bath University Unit of Study - Managing Educational Innovation (Bruce 2007) - and to examine other cultural frameworks alongside the MTV innovation.

My hypothesis was that the successful 'institutionalisation' (Fullan, 1991, 2001) of the innovation is partially dependent upon a range of cultural needs being acknowledged and met. If these cultural and psychological elements identified by the theorists are weak, or missing, from the MTV model in a school, I hypothesised that the innovation would be less likely to succeed. I intended to test this hypothesis by investigating users' perceptions and to look closely at the documentation of the practices and strategies already in place around the MTV innovation at my own international school, at another international school in Europe, and in an Australian school which is also attempting to introduce MTV.

The purpose of my research was both to identify gaps and weaknesses in the way MTV is being introduced at my school, which may be inhibiting its chances of becoming institutionalised, and also to identify strengths. As a result of this research, I hoped to become more aware of the 'ideal' cultural conditions which would enhance the probability of the success of MTV in the school. If I found strengths, I hoped the school would be able

to build on them, and that the cultural theory would inform the ways in which MTV could be further embedded and sustained systemically in the culture of the school. I predicted that it would also be possible to speculate more generally, after my investigation, about links between cultural conditions and the probability of success of other innovations in both my own and other international schools.

My role as MTV Coordinator at School X

When I began this study I was in my second year as one of two MTV coordinators at School X. It seemed appropriate to research the phenomenon of MTV as I was developing factual knowledge about both the innovation and the institutional culture of School X, which, according to Denscombe (2002), is important for a researcher. Having examined a range of literature on successful research, I identified Robson (1993) who notes five elements of successful research. According to Robson successful research develops from five important elements, the first being 'activity and involvement' (p.26). In my MTV coordinator role I have positive and frequent contacts between colleagues working with MTV ideas, with administrators attempting to institutionalise the MTV initiative, and, to a lesser extent, with others trying to do the same in other schools worldwide.

My role as the MTV coordinator involves motivating, leading, advocating visible thinking, developing correlations between MTV and the school curriculum, keeping abreast of research, collaborating cross-divisionally, supporting professional development of faculty, understanding and supporting the ways of thinking and teaching that MTV generates. As a manager I am required to liaise with Harvard's Project Zero, where MTV originated and is being researched and developed, the Heads at my school, the curriculum support team, and

the teaching faculty (see job description in Appendix I). There is 'convergence' (Robson's second element) in that there is a coming together of two or more activities. In my case, I am involved in teaching and implementing MTV thinking routines as part of my daily pedagogic responsibility in the Elementary School (ES), and in working with my teaching colleagues and sharing good practice, as well as in my role as a mentor of a novice teacher. As the Institute Coordinator I am responsible for facilitating the MTV Summer Institute given by Dr. Ritchhart, and offering follow-up study group sessions, which may lead to teachers earning a pay rise through Learning Credit.

Robson's third important indicator of successful research is 'intuition,' where the researcher feels that the work is important and timely. I felt it was crucial at this stage to assess how well and how far the culture of School X supported the innovation of MTV, especially as there is a high turnover of teachers and a strong emphasis on multiple innovations. I also wondered if the emphasis on new technology innovations would influence people's loyalty to and continuation with MTV styles of working and with establishing and maintaining 'cultures of thinking' (Ritchhart 2002) in their classrooms. I wanted to use an action research approach (Denscombe 2002, Bell 1987, Robson 1993, Cohen et al 2000) through the organisation of after-school study groups or faculty enquiry groups (FEGs) and through mentoring a novice teacher and facilitating professional development.

The fourth characteristic of successful research, according to Robson, is 'concern for theoretical understanding,' and I was concerned that in order to implement innovation of whatever kind, we needed to understand more about the culture of individuals, sub-groups and of the whole institution, and really have a theoretical understanding of how culture can work for and against change.

The final facet of research mentioned by Robson is 'real world value.' I felt that by examining this real and problematic area of culture and innovation in an international school, my research might help us to learn how an innovation can be implemented successfully, and how culture might support that successful institutionalisation of an innovation that is well planned and thoughtfully maintained in the long term, economically, politically and, in my view, most fundamentally, culturally (House and Macquillan 1981, 1998).

Initial Research Questions

In this study, my fundamental questions were as follows.

- How likely is the MTV innovation to succeed at School X?
- What cultural factors can be identified as either lacking or present that might increase the chances of the innovation becoming institutionalised at School X?
- How do Schein's cultural dimensions and theories about transformational change in organisational culture apply to School X and the MTV innovation?
- How can cultural theorists and conceptual frameworks help us to understand the complexity of introducing innovative ways of working to teachers and students, specifically using reflective practice, developing cultures of thinking and using visible thinking approaches to thinking and learning in School X?

The Scope of this Research Study

Beginning with a literature review, I examine the work of cultural theorists such as Schein, Trompenaars, and others alongside the MTV innovation. It was outside the scope of this study to research thinking skills programmes, although it was important to clarify what is

meant by ‘visible thinking’ and to briefly explain why this innovation was chosen and why it was deemed appropriate as an innovation at School X. The large amount of literature specifically about leadership and management was outside the scope of this research, as my focus was on organisational culture and change through the growth of teachers and informal teacher leaders. My aim was to find out how and to what extent teachers were using MTV ideas and routines in the school as a whole, and whether and how professional development helped teachers successfully implement and develop MTV in their classrooms, in this and other schools.

In attempting to describe the MTV innovation, it became clear that there were a number of interwoven yet distinct methods through which MTV was being introduced to teachers at the school. Faculty enquiry groups had been established in 2003, with Harvard researchers asking teachers to try out ‘thinking routines’ in their classrooms (Perkins et al 2000) around the ideals of Understanding and then, the following year, Fairness. In 2005 a teacher coordinator for Making Thinking Visible was appointed, and teachers began piloting the use of thinking routines, whilst attending an after school faculty enquiry group (FEG). The group learning was documented and stored on the school’s network, with reflections of participants and photographs. In September 2007 the FEGs were evolving from purely MTV study groups to become Looking at Learning groups. The group documentation for each session was put onto the school’s online learning platform (BlackBoard) under the heading “Professional Development” with a discussion board option. The study group protocol was altered in order to include other learning groups working at the school on other initiatives such as the International Teacher Certificate, Learning with Technology, and Differentiated Instruction.

In August 2005 the first MTV Four Day Summer Institute was held, for 35 attendees, (with two other Institutes) with Dr. Ritchhart giving an introductory course about Visible Thinking, and this course was repeated in August 2006 (25 attendees) and August 2007 (6 attendees). It ran again in August 2008 as 'Telling the story of Learning' (12 attendees). Dr. Ritchhart made mid-year visits of two days, and teachers were given release time to attend follow-up workshops with him, in 2006 and 2007. In March 2005, 2006 and 2008 there was a three day MTV conference at Amsterdam, attended by six teachers from School X and sponsored by the school. In March 2008 the MTV coordinators ran a Looking at Learning study group session during scheduled professional development time during the school day. In 2007 a new teacher appraisal system was introduced, which used an adaptation of a thinking routine, called "I saw….I heard….I wondered" and the interns and teachers being mentored (mentees) were asked to use MTV routines in their reflections about their learning during the previous year, which they presented at semi-public colloquia.

During the years 2006, 2007 and 2008 MTV thinking routines were modeled by some Heads at faculty meetings. In 2007 and 2008, peer observation began in some divisions of the school, but there was no explicit instruction that MTV routines should be used and observed in this context. From 2006 all Units of Enquiry were planned in departmental teams and put on the school wide online curriculum mapping tool (Rubicon) which contained all the standards and benchmarks, assessments, scope and sequence of the units of enquiry, suggestions for learning activities and resources, again, with no mandated expectation that MTV was mentioned or used. There is an MTV website (Visible Thinking), run through Harvard's Project Zero at their Graduate School of Education, describing, illustrating and explaining clearly all the thinking routines. The website contains suggestions for application,

and accompanying articles and short videos of the thinking routines being used, at http://www.pz.harvard.edu/vt .

These components of the MTV innovation can be arranged into ten categories, the first four as 'professional development in MTV: opportunities' and the remaining six as 'instruments through which MTV is being institutionalised'. My fellow MTV coordinator and I were the instigators of the study groups, along with interested faculty. The formal professional development was sponsored by the Educational Leadership Team, and the other aspects of the MTV innovation were introduced by the mentoring and intern coordinators and the Heads.

The Ten Components of Visible Thinking

Professional development: opportunities at School X

1. After School Study groups (FEGs) (my main focus as the coordinator) - voluntary learning out of scheduled day, with BlackBoard Website documentation and interactive discussion board.
2. Four day Summer Institute Professional Development Course - voluntary, during the school holidays.
3. Mid Year 'Expert' visit - some release time during school day, some voluntary after school time/Three day MTV Conference in Amsterdam (in school time with release).
4. Scheduled in-service morning in School X within the school day run by MTV coordinators (e.g. March 9th 08).

Other instruments through which MTV is being institutionalised

5. Teacher Appraisal by Head using *I saw/I heard/I wondered* thinking routine.

6. Peer-observation/role modelling/coaching/team planning/using Rubicon online planning template.

7. Mentoring and Intern training and colloquia.

8. Modelling at Faculty Meetings/recruitment literature emphasis/Heads' recruitment of new teachers.

9. MTV Website.

10. Learning Credit incentive.

I wanted to examine these ten broad components of MTV in my school, and to find out if they were working to inform and to empower faculty in the use of MTV, and why, or why not. If they were not working, it was important to know why not, in order to change them and improve knowledge about and uptake of MTV in the long term. I hoped that the research would help me to be clear about the direction of the innovation and would have practical outcomes (Bell 1987 p 16) that would benefit the teachers and the change effort, leading to more thoughtful students and classroom environments.

Chapter Two Literature Review

In this chapter I look at definitions of culture and relate them to the culture of School X. I define the way I use the term 'innovation' within the context of this study, and how this affects how we can characterise the 'Making Thinking Visible' (MTV) initiative and its sustainability. I look briefly at 'institutionalisation' and 'sustainability' and go on to outline the main features of MTV. I examine some of the literature concerning thinking, routines, dispositional learning and thinking skills in schools. Next, I examine the study group as an evolving micro community of knowledge-enabling.

I go on to look at the professional development opportunities available as part of the MTV innovation, including traditional and 'reform' types. I discuss turbulence, staff turnover and multiple innovations, before going on to investigate pacing and the voluntary aspects of the MTV implementation that give teachers control over their learning and involvement. Finally, I outline Schein's (2004) theory of freezing, unfreezing and psychological safety. The psychological safety model emerges as the most useful theoretical framework for my purposes, and I construct a table using this theoretical framework to enable me to scrutinize the MTV innovation within the culture of an international school.

What is the culture of School X?

Hofstede (1991) defines culture as 'the collective programming of the mind which distinguishes one group or category of people from another', and he distinguishes between national culture and organisational culture. He outlines four *dimensions* of national culture (Hofstede 2003 p 261-262) which I discussed in a previous MA assignment as tools for analyzing the MTV innovation at School X (Bruce 2007). House and McQuillan (1998)

define culture as ‘community, its beliefs, values and norms ’ which includes shared language, shared meaning, and conformity and loyalty resting on these shared values. House and Maquillan see the ‘cultural’ as one of three perspectives necessary to enable school reform (the other two are ‘technical’ and ‘political’). I discussed these perspectives and found some of House and McQuillan’s cultural elements lacking in the MTV innovation (Bruce 2007). This contributed to my motivation to investigate this field more thoroughly.

Trompenaars (1997 p 3) writes that the essence of culture is ‘the shared ways groups of people understand and interpret the world’. He defines culture as ‘the way in which a group of people solves problems and reconciles dilemmas’ and distinguishes between national, corporate or organisational, and professional culture. He visualises culture as three circular layers, rather like a model of a planet (p 22). The outer layer consists of the **explicit** products such as food, language, buildings, houses, monuments, agriculture, shrines, markets, fashions. The middle layer consists of the **norms and values** of a stable culture, which is the mutual sense a group has of what is right and wrong. The core of the cultural planet consists of the **implicit** basic assumptions that are not articulated, but understood. The importance of these implicit basic assumptions at School X become apparent as we examine the MTV innovation at School X, as they vary considerably between groups and individuals according to their experiences and attitudes towards the innovation.

Trompenaars provides a frame of reference of seven cultural dimensions through which it is possible to analyse ways in which people attribute meaning to the world around them (p 196 and p 8-10). He calls cultural awareness an understanding of ‘states of mind’. As part of his discussion on Time (one of his seven dimensions) Trompenaars talks about past, present and future oriented cultures. This enables us to characterise School X as having a very future

oriented culture, with strong emphasis on fast-paced and multiple innovations, forward planning, technology, and team-oriented leadership development, rather than on hierarchical top-down micro-management. This has strong implications for my research, because this future-oriented culture demands very fast assimilation of new ideas and teaching practices and language, and does not always encourage a deep understanding of philosophy and reflection, which are pre-requisites to incorporating MTV types of thinking into the culture. On the other hand, teaching children how to think, rather than expecting them to learn traditional knowledge-based curriculum, is an important aim of MTV.

Organisational and management expert Edgar Schein (2004) sees culture as 'the climate and practices that organizations develop around their handling of people, or to the espoused values and credo of an organization'. At school X, this espoused credo is the Mission Statement - ***Everyone Included, Everyone Challenged, Everyone Successful. International Citizen, Independent Learner*** (see Appendix II). In addition to the espoused credo, many things about culture are hidden, and culture guides and constrains 'the behaviour of a group through the shared norms that are held in that group'. Leadership is important, as it 'creates and changes culture, while management and administration act within a culture'. This description of roles in organisations does not take account of the changing possibilities beginning at School X. The idea of *informal leadership* is blurring the traditional boundaries between leadership, management and administration at School X, which has an important effect on the culture of the school. Schein defines culture as the things that a group shares and holds in common, and that develop 'as groups of people struggle to make sense of and cope with their worlds' (p 8-15). Schein asserts that as cultures grow they become less conscious of their beliefs and begin to treat them more and more as non-negotiable assumptions. Schein's work perhaps informed Trompenaars's notion of the implicit core of

culture, and also connects with Van Kogh's (2000), Fullan's (2001) and Perkins's (2003) ideas of 'tacit belief systems'.

For Schein, the three layers of culture can be represented thus:

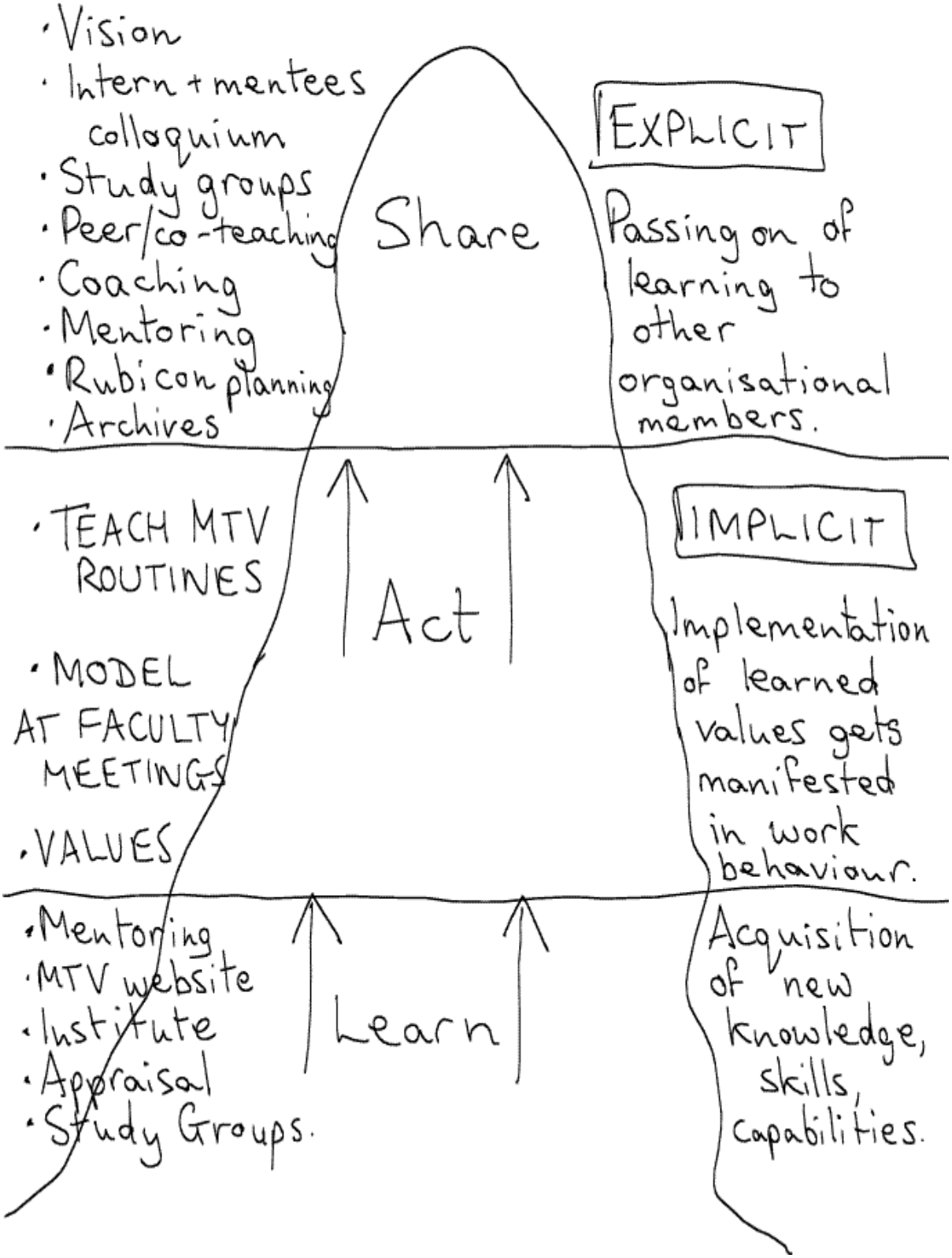
Top layer - Artifacts

Middle layer - Espoused Beliefs and Values

Bottom layer - Underlying Assumptions.

This model bears similarity to Azmi (2008) in his 'iceberg model' of culture, based on the work of Senge (2006). This is a very useful model of culture which is highly applicable to School X, which I have drawn on the following page, including the MTV innovation elements. In Azmi's iceberg model, the top layer - SHARE - (sticking out of the water) is the EXPLICIT passing on of learning to other organisational members. The middle layer – ACT - (under the water) is the IMPLICIT implementation of learned values that are manifested in work behaviour. The bottom layer – LEARN - (deep under the water) is the ACQUISITION of new knowledge, skills and capabilities.

AZMI'S 'LEARNING ICEBERG' and MTV



Schein (2004) states that what new members of a culture are taught is crucial, as culture is a mechanism of social control. 'One of the major activities of any new member when she enters a new group is to decipher the operating norms and assumptions' (p19). The implications for School X are important. There is a very large turnover of staff and the recruitment of new teachers, the mentoring programme, the intern programme and the written documentation of the curriculum all play an essential role in informing new members of the culture. With role-modelling, appraisal, peer-coaching and professional development opportunities, new members' enculturation into the culture of School X should be rapid. Schein argues that 'a group that has had either considerable turnover of members and leaders or a history lacking in any kind of challenging events may well lack any shared assumptions' (p 22). This makes reference to the need for 'disequilibrium' which Fullan (2001) sees as a pre-requisite to change, and which Perkins and others call 'unlearning' which leads to progressive transformation in an organisation.

Culture is made up partly of stories, legends, myths, analogies, rituals, ceremonies, sages, images, parables (Levine p 43 in Hargreaves and Hopkins 1994). School X has its fair share of all of these. Wilson (2005) claims that there are four groups of things that he calls 'culture makers' - ideals, leaders, tools and actions. At School X, the ideals are there, whether implicitly or explicitly, and there are many leaders of different kinds. The tools of School X are both tangible, such as computers, programmes of study, strategies for teaching and learning, and conceptual, such as the tools that are carried around in minds as patterns for thought and action (Wilson p 16). Action and conduct keep the culture going, and at School X there is a very wide range of action. Culture is a matter of the tacit belief systems that people hold and that underlie their behaviour, and culture is largely expressed and

reinforced through 'symbolic conduct' which is not articulated in mission statements or policies, but in the way people say things or in how they behave (Perkins 2003). An example of 'symbolic conduct' in the culture of a school is that the latest teacher to arrive gets the nastiest desks and the smallest and least attractive classroom. Culture involves shared vision, leadership, artifacts and interactions. According to Perkins, 'conversations are the virtual neurons of a collective mind' (taken from Ernesto Gore, unpublished quote from Perkins 2003). Perkins divides these conversations or interactions into two groups, *progressive* and *regressive* interactions. Progressive interactions involve effective knowledge processing and positive symbolic conduct, the kind of symbolic conduct that builds cohesiveness, trust, and commitment, and regressive interactions involve poor knowledge processing and negative symbolic conduct.

What kind of an innovation is Making Thinking Visible?

For this study, I have chosen to use Glatter et al's (2005) definition of educational innovation.

> 'A significant change in processes, provision and/or organisation intended to help meet educational goals more effectively or to promote new goals'.

The authors focus on the particular, rather than seeing 'innovation' in the abstract as 'the successful exploitation of new ideas' or 'Learning to do things differently in order to do them better' (p 384). Although this study looked at innovation through the lenses of organisational change, and cultural and psychological perspectives, the innovation I examined is embedded in the context of a school, and is very much concerned with improving learning and teaching, and in developing a 'professional learning community' described by Stoll (2007) as

> ‘An inclusive group of people, motivated by a shared learning vision, who support and work with each other, finding ways, inside and outside their immediate community, to enquire on their practice and together learn new and better approaches that will enhance all pupils’ learning’ (p 6).

Glatter and his colleagues distinguish ‘innovation’ from ‘change’ and ‘reform’ in the following ways. ‘Change’ can mean any alteration in circumstances, however caused and for whatever reason. ‘Reform’ is more generalised, with stated purposes, but covering a series of more or less connected innovations (p 385). Innovation must help to meet or improve educational goals in a school. Innovation doesn’t have to be novel, pioneering or front-line, but can be ‘transferred innovation’ - an effective practice from one school adopted by another (p 385). This means that the MTV innovation qualifies as a transferred innovation, as it is being implemented in schools throughout the world, and School X is not the first to introduce MTV, nor is it unique in its approaches to implementation.

Glatter et al describe two types of innovation. One is ‘strategic innovation’ which is extensive in size, scope and scale. The other is ‘specific innovation’ which is smaller in scope, distinct in its own right, and connected to the larger strategic innovation. I would classify MTV as a ‘specific’ innovation which formed part of the wider strategic innovation of collaborative ways of working with students, teachers, leaders and other stakeholders that is being introduced over a number of years through many different, complementary and often interlinked and coherent innovations. Glatter et al maintain that an innovation evolves gradually, and often in small incremental steps, which they judge to be effective in bringing about change, as the innovation becomes institutionalised (Fullan 2001) over time. The recent literature refers to sustainability rather than institutionalisation, and Glatter et al judge

that an innovation has been successful if it reaches Fullan's implementation stage where it is embedded within the complex institutional structure of a school.

The Innovation as 'Sustainable' rather than 'Institutionalised'

Hargreaves and Fink (2000 p 32) define 'sustainability' as follows:

> 'Sustainability does not simply mean whether something can last. It addresses how particular initiatives can be developed without compromising the development of others in the surrounding environment, now and in the future.'

This definition helped me to perceive the MTV innovation within the organisational system of School X, and that it was a necessary pre-requisite for MTV's success that it did not compete for resources or political support with other innovations. The MTV initiative needs to complement and support other innovations at School X engendered by the other Learning Institutes, and that arise from other teachers' passions and learning preferences, beliefs and values and the variety and complexity of new initiatives and expertise constantly being brought into the school by new teachers. Using the analogy of ecological sustainability, Hargreaves (2002 p 193) outlines five interrelated characteristics of educational improvements that are sustainable. They

- sustain learning
- endure over time
- can be supported by available or achievable resources
- do not impact negatively on the surrounding environment of other schools and systems

- promote ecological diversity and capacity throughout the educational and community environment.

These connect powerfully with the ideas explored later in this chapter about the dangers of 'groupthink' and about the importance of the congruence between the professional development initiatives at School X. Hargreaves's need for cross fertilization of ideas and for retaining biodiversity seems to be in opposition to the view that professional development should be congruent within the organisation, and it adds complexity to the exploration of innovation and culture contained in this study. There are no easy solutions.

Owston (2007) created a model of *essential* and *contributing* conditions underlying sustainable innovative teaching practices using technology (p 68). He found that the most fundamental essential element was teachers' beliefs that what they were doing in the classroom had merit. He found traditional types of professional development in the new practices at the heart of his sustainability model, although he does mention the possibility of informal learning on the job with peers. Support from the school principal was a third essential factor, preferably an 'actively involved' one, not merely neutral or supportive. Lastly, he found students' enthusiasm and motivation to be essential. This may have a connection with Schein's framework of psychological safety, but was not part of his framework because Schein was working within organisations, rather than schools.

What is Making Thinking Visible?

'Making Thinking Visible' is not a thinking skills programme, in that there are no manuals or teacher workbooks or sequential programme of instruction with scope and sequence and lesson plans. MTV does have some features in common with thinking skills programmes,

especially in its emphasis on collaborative learning, discussion and metacognition. There has been some criticism of the term 'thinking skills' from people active in the field who fear that it 'seriously misrepresents the complex nature of good thinking and its teaching.' (Perkins, Jay, Tishman 1993) The website at (http://www.pz.harvard.edu/vt) describes MTV or Visible Thinking, as

> 'a flexible and systematic research-based approach to integrating the development of students' thinking with content learning across subject matters. An extensive and adaptable collection of practices, Visible Thinking has a double goal: on the one hand, to cultivate students' thinking skills and dispositions, and, on the other, to deepen content learning. By thinking dispositions, we mean curiosity, concern for truth and understanding, a creative mindset, not just being skilled but also alert to thinking and learning opportunities and eager to take them.' (VT Website 2nd July 2008)

The goals of MTV are

- Deeper understanding of content
- Greater motivation for learning
- Development of learners' thinking and learning abilities.
- Development of learners' attitudes toward thinking and learning and their alertness to opportunities for thinking and learning (the "dispositional" side of thinking).
- A shift in classroom culture toward a community of enthusiastically engaged thinkers and learners. (VT Website 2nd July 2008)

The research into visible thinking comes from Harvard's Project Zero, and is very practical in nature, focusing on short, easy to use thinking routines and on using modelling and visible artifacts to document thinking in classrooms.

In the literature, the dispositional view of thinking is discussed in terms of three elements: ability - the basic capacity to carry out a behaviour, inclination - the impulse to engage in the behaviour, and sensitivity - the likelihood of noticing occasions to engage in the behaviour (Perkins et al 2000 pp 272-273). The authors concluded that thinking dispositions contribute to intelligent behaviour, and that they can be measured and be used to predict individual differences in intellectual performance. Another important aspect of the MTV approach is for students to acquire concepts needed to think about talk - to become metalinguistic - so that they can think effectively. The students also need to become more metacognitive (Perkins 1993). The MTV innovation also draws on the work of Ellen Langer, who writes about the concept of 'mindfulness'. She has researched aspects of daily life and found that being mindful confers benefits of greater control, richer options and transcended limits, and contrasts it with mindlessness, which leads to cruelty, prejudice, loss of control and stunted potential (Langer 1989).

Thinking routines are one of the central means of implementing MTV in schools. A research paper outlining the importance of routines in classrooms describes routines as 'scripted segments of behavior that help movement toward a shared goal' (Leinhardt et al 1987 p 136). The researchers studied how experts establish effective routines during the first four days of school and found three types of routines: management or class running, support or lesson running and exchange or interactional routines. They also drew on other research and concluded that routines were, on the whole, an important aspect of the effectiveness of teachers' instruction. MTV builds on these findings, and Ritchhart et al (2006) categorise four types of routines used in classrooms as management, housekeeping, discourse and learning routines.

Thinking routines are different from single use *strategies* because they are repeated and they become common, shared practices (p 7). Ritchhart et al (2006) analyse the features of thinking routines. They have only a few steps, with a name, such as SEE THINK WONDER that make them explicit and easily called to mind by both teachers and students (see Appendix VII). Thinking routines serve an instrumental purpose, which is to 'scaffold and support a particular set of thinking moves' (p 11). MTV thinking routines can be used across a variety of contexts, age-ranges and subjects, and can exist as both an individual and a group practice.

Another feature of MTV thinking routines is their flexibility, as they lend themselves to being 'tweaked' and to a range of teacher-designed ways of recording. The article classifies the 'thinking moves' across the many thinking routines in terms of cognitive behaviours, such as generating ideas, asking questions, providing evidence and explanations or exploring multiple perspectives. It concludes that the thinking routines emphasise critical thinking, creative elaboration and reflection. The authors carry out an epistemological analysis of MTV thinking routines and discover that the students are gaining important epistemic messages about learning and knowledge through the use of MTV thinking routines. These messages are: 'Learning is active, self-originated, social, and inquiry-oriented; knowledge is dynamic, personal, performance-oriented, multi-perspectival, and complex (p 19).

Thinking routines provide a structure that 'engages students deeply with content, fosters their understanding, and uncovers their thinking in the process' (p 35). In my classroom, thinking routines uncover misconceptions, and the way students are thinking, and validate their ideas. Routines act as powerful tools for assessing and moving instruction to the next stage. The visible nature of the documentation, whether it is charts, mind-maps, lists,

diagrams or student scribbles on post-its has made it possible to slow down the thinking taking place in order for us to re-visit and to reflect, and to refine the quality of our thinking. In his book Intellectual Character (2002) Ritchhart, who is one of the leading researchers in MTV, and who is the consultant at School X, explores thinking routines more fully in the context of his research (pp 85-111). He makes the point that enculturation of a disposition to think is seldom achieved by specific thinking skills programmes, whereas through the development of a classroom culture of thinking enculturation will occur because 'it depends on immersion into a way of doing things over an extended period '(p 110).

Although I am an advocate of MTV, and hold a leadership position as MTV coordinator, it is important for me to be aware that MTV must be construed as just one of many ways to elicit good thinking and learning of teachers and students. Many experienced and gifted teachers use elements of MTV type documentation, collaborative learning, ways of reflecting and talking and thinking about their thinking without giving them that label. Many reflective practices are evolving in classrooms without a specific MTV focus through the use of well designed teaching materials, constructivist approaches, teacher expertise and pedagogical awareness. The Project Zero framework of Teaching for Understanding, the McTighe Wiggins Backward Design, Systems Thinking, portfolio assessment and many other approaches which are outside the scope of this dissertation use similar and complementary teaching and learning techniques of equal efficacy. There is a probability that MTV styles of working resonate with teachers and students with specific cultural and personal learning styles (Bruce 2007). I want to avoid giving the impression that MTV is the only way to improve thinking and learning in School X. Conversely, since MTV is the subject of this dissertation and one of the publicly endorsed and resourced professional development

innovations at School X, it is clear that I and others at the school believe in and value it highly.

Other literature points to the difficulties teachers find in implementing thinking skills programmes. Baumfield and Oberski (1998) studied the implementation of three thinking skills programmes, and noted the need for a 'shift in emphasis from identifying learner outcomes as tangible and immediate, to the *processes* of learning' (p 46). They reported that the history of the implementation of thinking skills programmes demonstrated difficulty in sustaining commitment from staff and that it often falls 'to lone enthusiasts working in isolation to continue with an initiative which may never attract whole school support' (p 45). These findings were supported by Leat (1999) who looked at barriers to the implementation of thinking skills programmes. He found that the programmes

- Change the learner
- Make pupils transfer their learning
- Promote cooperative learning and encourage a democratic community of enquiry.

Leat mentions that one of the barriers is teacher socialisation, including storytelling in the staffroom. He talks of the 'apprenticeship by observation' of most teachers, who have experienced thousands of hours of being taught, and have a certain image of what teaching consists of (p 391). He cites the three part pattern of teacher dialogue, where the teacher initiates, the student responds, then the teacher feeds back in the form of an evaluation (the I-R-F discourse pattern), (Sinclair and Coulthard 1994) that results in an imbalance of questions asked by teachers and students. He talks about the socialising forces at work in the classroom which lead students to be resistant to new ways of being, when they are expected to engage in potentially challenging and open ended tasks, debriefing (reflecting) or

mediation. Teachers involved in Leat's study found that classrooms became chaotic when new models of discussion or cooperative learning were attempted. When thinking skills programmes ran into problems, Leat argued, socialising forces would encourage teachers to return to default mode. Because of normal desirable states - classroom equilibrium - experienced teachers go through a phase of disorientation and become novices again when trying the new strategies of thinking skills programmes, which tend to be more constructivist in nature rather than behaviourist. This affective barrier to change is explored in depth throughout this dissertation, as it becomes more evident that affective factors are the most significant driving forces behind the institutionalisation of the MTV innovation at School X.

There may be some aspects of MTV that require too substantial a shift in teachers' 'craft knowledge' for them to emerge as experts in MTV. Leat argues that the emphasis on process rather than content may be another barrier. In the case of MTV, it is true that a shift in classroom culture and pedagogy is required. Content is investigated in greater depth, in a more analytical way, and thinking is slowed. Different angles are taken, connections are made between prior knowledge and other content areas. The aim is deep understanding, questioning and synthesis, leading to transfer. 'Coverage' becomes less extensive, and less is understood at more depth, rather than more at surface level. There exists a tension between the knowledge/content coverage of a traditional I-R-F didactic model of teacher-as-expert, and MTV ways of teaching and learning. The MTV model involves student led questioning, hypothesis, interpretation and reflection. This model is undeniably at variance with some teachers' preferred styles of working and explicit beliefs about how students should learn and how they should be as teachers. Leat does not mention the effect that parents' perceptions can also have on the difficulty of changing the classroom climate and the expectations, but I have personal experience of this clash of cultures interfering with my

implementation of MTV practices at School X. One of the strengths of School X is that dissent and argument are possible, and that creative and effective teachers have choices. This will be explored as a factor that may limit the embedding of MTV at School X, in chapters four and five.

The Study Group as evolving micro community

In the next section I discuss the study group and literature that informs the concept of Faculty Enquiry Groups, (FEGs). One of the most important components of MTV at School X is the development of the study group.

> 'In these groups teachers reflect on student work, or documentation, generated by students when using routines or investigating an ideal. Documentation such as lists, maps, charts, diagrams, and worksheets reveal learners' unfolding ideas as they think through an issue. In study groups teachers use the structured conversation of a protocol to look at and reflect on thinking present in student work.'
>
> (VT Website 2nd July 2008)

As the MTV coordinator I took responsibility for running such a group at School X for two years, and before that I was an active participant. When the study group began, in 2001, we were a loose collection of teachers from all four school divisions who were interested in enquiring into different aspects of our practice. We were a collaborative 'grassroots' movement (Wildman et al 2000 p 250). We were a 'fused group' that was driven by 'a kind of shared curiosity about what other members knew and what the group might eventually accomplish if they continued to explore their interests and skills'. We were what Van Krogh et al (2000) calls a *micro community of knowledge*, who formed ourselves into groups 'based

on common values and goals' (p 5). We posed our own group enquiry questions and explored ideas.

In 2003, we became the MTV study group, and we met in each others' classrooms once every two weeks, in a safe atmosphere of care and trust. Our aim was to try out MTV thinking routines in our classrooms and to bring students' work to the table. We aimed to examine the work in an atmosphere of mutual support and to explore evidence of student thinking and implications for the teaching and learning in our own contexts. Von Krogh et al (2000) would say that 'knowledge enabling' which 'emphasises human relationships and good communication' was occurring, as the micro community developed its own rituals, languages, practices, norms and values' (p 14). We were very informal, and met as a group of 5-7 people, with healthy snacks that we took it in turns to provide for the group. We followed a procedure called MYST (Me, You, Space, Time - see Appendix III for an example of the MYST reflection tool) where we went round the table and reflected on something from our teaching day, and how it showed aspects of actual 'visible thinking' in one or more of these dimensions.

The group then used a protocol developed at Project Zero called LAST (Looking at Student Thinking - see Appendix IV) which gave a structure to our discussion. We were guided in this process by Dr. Ritchhart and Ms. Palmer, two researchers from Project Zero, and we explored the ideals of Understanding and then Fairness. The membership of the group was diverse, with teachers from across all sections of School X. Van Krogh et al (2000) state that diversity, 'benefits the entire unit in the sharing of tacit knowledge'. According to Van Krogh, we moved from being a 'fused group' to becoming a 'pledged group' which was

'continuously searching for and refining its identity' (p 15) and developing its collective memory.

Dr. Ritchhart acted as a 'caring expert' and the group exhibited *indwelling* where we became committed to the idea of MTV, using thinking routines in our classes, developing shared tacit knowledge, and dwelling on the experiences, perspectives, and concepts of other participants (Van Kogh 2000). This high level of trust was achieved through the unofficial/private nature of the study group, where we expected people to commit to a series of meetings, and we really cared about each other. Each presenter shared his/her classroom practice in a spirit of open enquiry and experimentation. The facilitation was very casual, and followed the protocol very loosely, allowing for digression, laughter, discussion and real exploration of ideas. The documentation was on chart paper, and we took photos of the documentation and put them on the School X network in a folder accessible to all. This became the *narrative* of the micro community of the study group (p 238).

According to Von Krogh, 'Good conversations are the cradle of social knowledge in any organization' and they can unleash the creative powers of individual participants and fuel knowledge creation beyond the capacities of a single mind (p 126). This was how the MTV study group felt. Perkins (2003) also emphasises the importance of good conversations that lead to *organisational intelligence*. His thesis is that 'sustained fruitful collaboration on matters that call for thinking is perhaps the purest expression of organizational intelligence' (p 155). Using Schon's (1983) reflective practitioner research model, we can see close links between his idea of *knowledge-in-action* in professional contexts, and the study group model at School X. Another example of using the same type of collaborative study groups took place at a university of 25,000 students and 1,600 faculty carried out by Wildman et al

(2000). The authors identify the *narratives of practice* whose purpose is to deepen the participants' understanding of their experiences with students, their disciplines, and the curriculum they negotiate on a daily basis.

The playfulness and creativity in choosing names for Wildman's study groups, their receipt of a payment of 300 dollars for participating, their ceremony and awarding of certificates are all indicators of a specific cultural context that differs from that of School X, but some components are similar to the MTV study group. Wildman et al concluded that their faculty found it more comfortable to take risks and share ideas outside of the departmental culture. The affective factor cannot be underestimated. This observation corresponds with the importance seen by Perkins (2003), for 'a *contact architecture* that mixes people enough to foster propagation of progressive practices from group to group ("flock to flock") along with a critical mass of developmental leaders to seed the process' (p 224). This speaks to the need for the study groups at School X to remain cross-divisional. As Schein (2004) states, no one should feel like a deviant for wanting to engage in new learning (p 332) and being away from entrenched habits of the department or divisional culture, in the context of a cross-divisional study group, might make this less probable.

In 2007, the MTV study group evolved into the Looking at Learning study group. This was a conscious effort to avoid balkanisation which creates stereotypes (Fullan and Hargreaves 1991 p 54 and 76-77). We did not want to become an MTV clique. Perkins (2003) quoting Janis (1972) warns of 'groups with excessive cohesiveness, commitment, and compliance, leading to various forms of blindness, such as failure to explore or take seriously alternatives and a lack of critical perspective' (p 152). This *groupthink* fails to capitalise on the diversity and experience of the group. It 'misses the complexity of the problem on the table and the

opportunity to treat the problem richly, sacrificing them to group cohesiveness' (p 152). In order to avoid the trap of having the MTV group seen as the missionaries, and others as the unbelievers, in October 2007 a group of informal leaders met to discuss changing the format of the study groups to be more inclusive. Fullan and Hargreaves (1991 p 7) warn of the dangers of *groupthink* which they describe as 'contrived collegiality' which can reduce innovation and lead to unthinking self-suppression of one's own intuition and experiential knowledge.

In any change or innovation there will be 'a few ardent participants, many middle of the roaders, some reluctant participants, and some antagonists' (Perkins 2003 p 239). It seemed important to harness the energy of people outside the growing MTV core groups of teachers who had attended the MTV Summer Institutes. Thus a new Looking at Learning protocol was developed by both of the MTV coordinators, with some input from the Head of Learning Support. Also, we aimed to include the perspectives from participants in the other Institutes: Technology, Differentiation and International Teachers Certificate. We wanted to keep the study group inclusive by sending out invitations to everyone, even at the risk of alienating people who really were not interested. This is described by Perkins as keeping the 'boundaries between participation and non participation flexible, permeable, and blurred - for instance, by keeping people with erratic attendance on invitation lists and by accepting a certain amount of tokenism or half-hearted participation' (p 239).

Other components of the MTV innovation under the microscope of culture and change

One factor that emerged from the literature was the need for 'reform' types of professional development that move away from the twilight in-service sessions familiar to many teachers

(Garet et al 2001). The authors asked over 1,000 teachers about their experiences of professional development in the form of institutes, courses and conferences that involved a leader with special expertise outside the school, at the weekends, and found these to be 'ineffective in providing teachers with sufficient time, activities, and content necessary for increasing teachers' knowledge and fostering meaningful changes in their classroom practice' (p 918). Mentoring, study groups and coaching that take place during the regular school day or even during the process of classroom instruction or during teachers' scheduled planning time were seen as 'reform' types of professional development. The authors stressed the need for professional development that is sustained over time. They cite four core features of effective professional development

- Focus on content
- Promoting active learning-planning classroom implementation, reviewing student work, presenting, leading and writing
- Fostering coherence - being connected, forming a coherent part of a wider set of teaching and learning opportunities
- Ongoing discussion - communication with others

It seems from this research that MTV learning that relates to other learning will be more likely to support change in teaching practice. If the MTV innovation is aligned to other change efforts in School X, and encourages professional communication among teachers, it has more chance of success. Such congruence between other innovations, other professional development and teachers' current practices was examined in a small study of 25 teachers carried out by Ghaith and Yaghi (1997). This study measured how willing teachers professed to be to implement instructional innovations after a four day staff development programme. Since the MTV Institute is only four days long, and has been attended by over sixty teachers

at School X, I wondered how the findings from this study would inform the MTV innovation. The authors found similar results to those they reported from Guskey (1988) that if teachers see a new teaching initiative as congruent with their present practices, they judged it less difficult to implement, requiring less work, and highly important. If the mentoring, peer-coaching, teacher appraisal and teacher recruitment at School X can find ways of helping teachers see congruence between their current ways of working and the MTV innovation, there is more chance of institutionalizing MTV. Ghaith's study also suggested dealing with inexperienced and experienced teachers differently (p 457). This might point to differences between the commitment and ease of new teachers and interns towards using MTV routines and strategies, as opposed to the way veteran teachers make use of MTV. The drawbacks to Gaith's study are that it did not investigate whether and under what conditions teachers actually implement instructional innovation in their classrooms.

In School X, which is a turbulent, fast-paced school of multiple, overlapping innovations and many opportunities for professional learning, an awareness of congruence between the multiple innovations seems essential. Similarly, if the other Institutes and professional development initiatives are congruent with MTV ways of working, then connections can be made and all of the innovations will perhaps be more likely to succeed. A counter argument to this one is found in Molinsky (1999). Molinsky argued that internal processes inside organisations make change ineffective. He claimed that change processes, rather than changing an organisation, actually strengthen the status quo.

One of Molinsky's impediments to change was a leader's over-commitment to multiple change, and inability to select, to pick and choose amongst multiple innovations, and thus to leave insufficient time for commitment to a specific project. Multiple change efforts also

confused employees, and diluted the effectiveness of the overall initiative. He saw a gap between the rhetoric existing around new initiatives, and the reality, which was often scepticism. Molinsky warned against compartmentalizing change into a bounded change project that 'becomes a pawn in existing intergroup rivalries' (p 15). Molinsky saw the social system as an insurmountable obstacle to change (p 22).

Wallace and McMahon (1994 p 37) showed how multiple 'heavyweight' (major, complex, interrelated and compulsory) innovations caused innovation overload in six case-study schools. Wallace found that teachers were not able to cope with multiple innovations. At School X, there are multiple innovations, as I documented in a previous MA assignment (Bruce 2007), and teachers are expected to cope with this, and to implement them. The MTV innovation is supported by ten components within the system, which are listed below.

Component 1 *Faculty Enquiry Groups (FEGs)*

These are voluntary faculty enquiry groups that take place outside of the school day, often happening at the same time as other meetings or professional development sessions (e.g. technology sessions, literacy study groups, curriculum development work). Although there is an online interactive (BlackBoard) discussion forum available (since October 2007) that we have developed alongside the study group, no one has as yet chosen to log on and participate in any follow-up discussion.

Component 2 *Four day Summer Institute Professional Development Course*

The four day MTV Institute takes place during the summer vacation, and there are other choices of Institutes on offer - Differentiation, Language and Learning, International Teachers' Certificate, Learning through Technology (Summer 08).

Component 3 *Mid Year 'Expert' visit/ Three day MTV Conference in Amsterdam*

There was no mid-year visit from Dr. Ritchhart in 2008. In the previous years only a few teachers took advantage of the release time to attend his sessions, which required them to leave their classes at awkward times such as the first two days back at school after the winter break. The Amsterdam conference has been attended by about twelve teachers during the last four years. The same teachers who are working with MTV in their classrooms tend to attend this conference, supplemented, occasionally, by interested teachers.

Component 4 *Scheduled in-service morning in School X within the school day run by MTV coordinators* – sign up on a first come first served basis from several alternative workshops. This took place in March 2008 and was attended by 25 teachers. It was entitled 'Looking at Learning', and used the revised multi-purpose protocol which is not MTV specific, but based on the Looking at Students Thinking (LAST) protocol. (See Appendix VI). It made reference to MTV and used the Looking at Learning protocol to examine student work using a 'tweaked' SEE THINK WONDER thinking routine and Art as a stimulus for teaching 6th grade French.

Component 5 *Appraisal by Head using I saw/I heard/I wondered thinking routine*

The appraisal of teachers uses an adapted MTV routine to examine teachers' classroom practice, so that, although the teacher may not be observed using thinking routines, the format of the appraisal follows an MTV approach, possibly endorsing it and making it visible. Appraisal is compulsory for all staff, is linked with the possible renewal of contract for new teachers, and is carried out by the Head.

Component 6 *Peer-observation / role modelling / coaching / team planning / using Rubicon online curriculum mapping*

Peer coaching and observation are beginning at School X, but there is no explicit MTV element expected here. Team planning does not require the use of MTV routines as strategies to be employed as part of instruction. Observation in others' classrooms is an expectation, as is team planning.

Component 7 *Mentoring and Intern training and colloquia*

The mentoring and intern programmes use MTV routines as integral learning and reflection tools, and the mentees and interns are asked to use MTV routines in their end of year colloquium presentations.

Component 8 *Modelling at Faculty Meetings /recruitment literature emphasis /Heads recruitment of new teachers*

There has been some modelling of routines during faculty meetings, but these have not been explicit, and not all of the Heads have used them. The recruitment literature and process implies that MTV ways of working are employed at the school.

Component 9 *Official MTV Website*

This is available at all times, if teachers choose to use their time to look at it.

Component 10 *Learning Credit incentive*

This is an eighteen page document under review by the Works Council (see Appendix VIII). It was introduced as an incentive to encourage teachers to attend the Institutes in their vacations and to attend three follow up meetings and implement some of the things they had

learned during the Institute. Now it requires attendance at three Institutes, with a progressively large and formal follow up piece of action research during the subsequent, particularly the third, year. It is not known who will assess these products. The successful teacher will then move up an incremental step on the pay scale. MTV is not specified in the Learning Credit document, although attending MTV study groups is one of the ways to work towards gaining an incremental pay rise.

Wallace and McMahon (1994) state that being able to control the change process from within the school seems to reduce turbulence and to have a stabilizing influence. This aspect of control is also important in Schein's framework of psychological safety (2004), which begins to have more significance in the light of the analysis of the culture at School X. In the case of School X, innovations are not imposed from outside sources such as Local Education Authorities or government, except where recommendations are made by the Council of International Schools (CIS) Accreditation team. International Baccalaureate (IB) teachers may feel that outside methods of assessment and issues of 'coverage' prevent them from implementing MTV.

Wallace finds that there can be negative interactions between innovations because one may hinder the implementation of another, or the demands of one may override the development of another. A strong hypothesis is that, whilst MTV is sustainable in the grades leading up to the IB, from Nursery to Grade 10, during the IB years MTV is not sustainable because of the negative interaction between the IB and MTV methods of learning. This would account for a possible lack of implementation in the High School. Another factor identified by Wallace in promoting turbulence is the high turnover of staff. New teachers might be too overwhelmed by the need to adapt to the demands of the culture of School X to take on MTV. Conversely,

if use of MTV is expected, new teachers will automatically become users. The ten components mentioned above indicate that MTV is to some extent already well established in the school culture through professional development, recruitment, appraisal and other mechanisms. The problem of high staff turnover demands that the system's know-how must be archived, so that it is not lost when teachers leave, and that archives 'must be appropriated, reproduced and stored' (Azmi 2008 p 242).

School X exhibits many features of turbulent environment (Wallace p 157 in Hargreaves and Hopkins 1994) which affect its ability to change. It has a great number of overlapping planning cycles, it plans for the next cycle before completing the present one, and it has an abundance of innovations, simultaneous goals and high staff turnover. These factors contribute to turbulence. On the other hand, School X generally has adequate resources to achieve its goals, it has a high level of control over the innovations, and development focuses on innovations originally in the school. These factors contribute to stability. The MTV innovation is both 'clear' (Wallace 1994) because of the adequate resources and the components listed above, but 'ambiguous' because of the flexible nature of the planning around MTV, the loose implementation of MTV both in time and space.

The idea of 'knowledge-sharing' is an important one in the work of Fullan (2001) who argued that a school may experience success with an innovation at an individual level but '*nobody else knows'* (p 105). This loss of both tacit and explicit knowledge is a feature of School X, partly due to the high teacher turnover and partly due to lack of communication between members of teams. One person may be fully conversant with MTV routines and use them regularly, while another team member has little or no knowledge of MTV and never uses it in his/her classroom. Fullan explored the importance of learning in context, in

the work setting and in the social setting, involving all members of the group. He stressed the need for a culture of moral support so that 'learning changes the individual and the context simultaneously' (p 130). Learning MTV routines is an example of explicit knowledge, but tacit knowledge and understanding increase in situations where the learning is modeled, through mentoring and peer-coaching, through faculty meetings, through the study groups or through other kinds of active learning *in context* (p 137).

Freezing, Unfreezing and Psychological Safety

Fullan also highlights the importance of vision in cultural development, as well as the sharing of tacit knowledge. Fullan and Hargreaves (1991) stress that the responsibility for vision building is a collective, not an individual one, and that 'All stakeholders should be involved in illuminating the mission and purposes of the school' (p 90). Owston (2007) notices the role of an innovation 'champion, an individual who provides leadership and direction to the initiative so that it is sustained'. I feel that in a complex and large international school with high turnover and complex contact architecture one 'innovation champion' is not enough. Senge (2006) identifies three types of leaders:

- Executive (who contribute vision and broad policy)
- Local line leaders (who supervise the productive heart of the organisation)
- Network leaders (who are advisors, coordinators and external or external consultants

The lack of political power of these 'network leaders' (of which I am one) who tend to plant seeds rather than issue mandates, sometimes enhances their influence (Perkins p 94). In an organisation as complex as School X, the support or active involvement of all types of leader is necessary. With the blurring of the roles and the emergence of informal leaders at School

X, it becomes evident that we are developing a kind of inquiry-centred leadership, which is more consultative, involves mutual accomplishment in a context of shared power, and is more adept than traditional structures at implementing risky innovations (Perkins 2003).

The importance of shared vision becomes more evident when we realize the need for teachers to make shifts in their personal value positions after they begin to feel a new awareness as a result of inspirational professional development. Their enhanced motivation and enthusiasm needs to lead to a change in actual practice. The *idea-action gap* has been explored by Wilson (2005) and is also called the *knowing - doing gap* by Pfeffer and Sutton (2000, quoted in Perkins 2003) and is defined as

> 'A name for the wide and persistent gulf between good principles and practical action displayed by individuals and organizations' (Perkins 2003 p 210).

It is my hypothesis that this idea-action gap is part of the power of the complex cultural forces at work at School X which make it difficult for teachers to make changes to their practice. In order to go through the process of 'unlearning' or 'unfreezing' (Schein 2004) teachers suffer psychological risks to self and identity that are caused by the 'disequilibrium' of transforming their classrooms into 'cultures of thinking'.

Schein drew on the work of Lewin (1947) for this metaphor of freezing and unfreezing to explain what happens when cultures change and grow. Harland and Kinder (1997) warn that the effects of even very inspiring professional development can be short-lived and superficial (p 73). They suggest nine elements that need to be present in changing practice, which involve many of the *affective* factors to do with motivation, value congruence, and the consensus, shared meanings, collaboration and mutual support of the teachers' surrounding culture.

The power of tacit belief systems is clear at School X, and I wanted to find out if, despite many of the desirable pre-requisites to innovations becoming well-established, it was the lack of 'psychological safety' amongst teachers that led to the idea-action gap. The tacit values and beliefs of the teachers might be that they are employed at School X because of their competence, their previous success, their status as excellent teachers joining a leading 'flagship school'. They have a turbulent environment to cope with, and there is an expectation that they work as individuals within teams, and that they become acculturated into the culture of the new country and the organization. The values of the school serve as a norm for guiding members of the group and in training new members how to behave, and the test of the school's values are 'how comfortable and anxiety free members are when they abide by them' (Schein 2004 p 29). Schein argues that there are two keys to successful culture change:

- The management of the large amounts of anxiety that accompany any relearning
- The assessment of whether the genetic potential for the new learning is even present (p 32)

Schein maintains that the essence of a culture lies in the pattern of basic underlying assumptions.

> 'Members of any new group will bring their own cultural learning from prior groups, from their education, and from their socialisation into occupational communities, but as the new group develops its own shared history, it will develop modified or brand-new assumptions in critical areas of its experience. It is those new assumptions that make up the culture of that particular group' (p 36)

Schein's theory is that disequilibrium - a sense of threat, crisis or dissatisfaction - must be present to motivate the process of unlearning and relearning. At School X, this may be an increase in class size, a drastic change in the number of students with learning differences, or the increase in the percentage of children who are learning in their second or third language. It could also be data indicating that results are not good enough, or the feeling that individual teachers must change to keep up with 21st century technologies and new ways of learning. It could be pressure from parents, administrators or the students themselves. The resulting unfreezing creates the motivation to change, and the learner 'must come to feel that the new way of being is possible and achievable and that the learning process itself will not be too anxiety provoking or demeaning' (p 322). There follows a cognitive redefinition of core concepts, and as the new beliefs and values stabilize and become internalized, they become taken for granted (p 328).

During the period of unlearning the anxiety to survive must be lower than the need to learn, otherwise the learning will not happen, and the culture will revert back to the old patterns of knowledge and behaviour that was part of our personal and group identity. At this point there must be 'psychological safety'. In working with MTV, teachers need to unlearn things such as working in isolation, using grading and traditional testing, and 'coverage' of subject matter and content. They need to move to less didactic, more enquiry-based student-led, collaborative model of instruction, and to use language, time and space in different ways (Ritchhart 2002 p 143). The new ways of working must be taught as new, clear concepts so that refreezing can occur where the new behavioural set of cognitions is reinforced, and is then confirmed by data. Schein writes that

> 'The essence of psychological safety, then, is that we can imagine a needed change without feeling a loss of integrity or identity. If the change I have to make threatens

> my whole self, I will deny the data and the need for change. Only if I can feel that I will retain my identity, my integrity, and my membership in groups that I care about as I learn something new or make a change, will I be able to even contemplate doing so' (Schein 2004 p 323).

It seemed to me that if I could find out how School X was providing psychological safety in the MTV innovation, I might uncover ways to bridge the idea-action gap and to help teachers feel able to use MTV more consistently and widely.

The following table shows my model of Schein's framework of psychological safety and how the MTV innovation fits into this framework. In the next chapter I will discuss how I used my model to interview teachers in School X, and in two other comparative schools where MTV is also being implemented.

Psychological Safety in managing change, related to the MTV Innovation at School X

MTV Aspects	**Schein's Eight Steps towards safety**
MTV written into recruitment literature. MTV ethos espoused as part of the mission statement.	A compelling positive vision - targets of change must believe that the organisation will be better off if they learn the new way of thinking and learning. Vision must be articulated and widely held by senior management.
MTV 4 day Summer Learning Institute. MTV mid - year Trainer follow up visit. Interns and Mentees use MTV in Colloquium MTV study groups use MTV routines and critique them.	Formal Training - members must be provided with new knowledge and skill, and necessary formal and informal training.
MTV is available to all via Harvard VT website. Teachers can experiment as and when they wish, in their own classrooms. MTV Time scale of implementation is very loose, so teachers can learn at their own pace, and design their own optimal learning process.	Involvement of the learner – If the formal training is to take hold, the learners must have a sense that they can manage their own informal training process, practice, and method of learning. Learners must design their own optimal learning process.
Planning on Rubicon - teams devise and revise units, and incorporate MTV elements into assessments and learning activities.	Informal training of relevant 'family' groups and teams. Because cultural assumptions are embedded in groups, informal training and

New learning is explored in MTV study groups.	practice must be provided to whole groups so that new norms and new assumptions can be jointly built. Learners should not feel like deviants if they decide to engage in the new learning.
MTV study groups. Heads' Appraisals, with coaching. Co-teaching and classroom observations from colleagues are encouraged.	Practice fields, coaches, and feedback. Learners cannot learn something new if they do not have the time, the resources, the coaching, the valid feedback on how they are doing. Practice fields are particularly important so that learners can make mistakes without disrupting the organisation.
MTV study groups - seeing MTV routines used by colleagues at various stages of career, both 'expert' and 'novice'. Modelling at faculty meetings.	Positive Role Models – The new way of thinking and behaving may be so different from what learners are used to that they may need to be able to see what it looks like before they can imagine themselves doing it. They must be able to see the new behaviour and attitudes in others with whom they can identify.
MTV study groups. Team meetings and reflections about units of study and assessments, MTV routines. Mentoring programme provides support for new teachers using MTV methods.	Support groups in which learning problems can be aired and discussed – Learners need to be able to talk about their frustrations and difficulties in learning with others who are experiencing similar difficulties so that they

	can support each other and jointly learn new ways of dealing with the difficulties.
Appraisals by heads, using Saw Heard Wondered format. (might lead to contract not being renewed). Learning Credits.	A reward and discipline system and organisational structures that are consistent with the new way of thinking and working – both the reward system and the discipline system must support or punish the new ways of working.

Chapter 3 Methodology

My research questions and how they changed

In order to discuss my research methodology, I need to return to my original research questions and reasons for embarking on this study. My hypothesis was that the successful institutionalisation of the MTV innovation was partially dependent upon a range of cultural needs being acknowledged and met. The literature review highlighted the need for 'psychological safety' (Schein 2004) and for the eight steps outlined in my table in the previous chapter to be addressed as part of the MTV Innovation at School X. I hoped that by investigating whether any, some, or all of these cultural needs were being met during the implementation of MTV at the school, I would be able to assess the likelihood of MTV's sustainability or institutionalisation. I also hoped to identify both strengths and weaknesses in the implementation of MTV at my school, and it seemed useful to look at how two other similar schools were implementing MTV in different parts of the world.

My first question was

- 'How likely is the MTV innovation to succeed at School X?'

I did not take into account that I needed to establish just how much teachers were actually using MTV in their classrooms, and what kind of participation in MTV existed at the present moment before I could try to predict the future. With hindsight, perhaps a better question would be

- 'How much are teachers at School X using MTV in their classrooms, and what factors encourage them to do so?'

To some extent, the investigation did shed light on this question, and it proved easier to measure how much uptake of MTV exists in the present than to predict how much there might be in the future.

My next question involved cultural factors.

- 'What cultural factors can be identified as either lacking or present that might increase the chances of the innovation becoming institutionalised at School X?'

By approaching the research as a case study, and through gaining access to a great deal of data because of my role as the MTV coordinator, mentor, informal professional development leader, and member of the faculty, it was possible to examine and analyse many of the cultural factors involved in the MTV initiative. I was able to identify ten components of MTV as it exists at School X and to use observation and analysis of documentation around these ten components as being part of the culture of School X, whether implicitly or explicitly. As the research progressed, however, and I began interviewing teachers, I became aware that my perceptions as the MTV coordinator gave me a stronger awareness of the ten components, and gave me insights into congruence between innovations and cultural elements within the MTV innovation that were not evident to others. My research question might have been more fruitful if I had asked the teachers to identify components of the MTV innovation and to make the connections themselves, rather than identifying them myself.

The third question was

- 'How do Schein's cultural dimensions and theories of transformational change in organisational culture apply to School X and the MTV innovation?'

This is a useful question, and I was able to explore it through the case study and the semi-structured interviews. By using the framework of Schein's aspects of psychological safety I

explored teachers' attitudes to the school's vision, their own vision, formal and informal training, their involvement in their own learning, the importance of family groups and teams, practice fields, coaches and feedback, and positive role models, support groups and reward and discipline systems. It was difficult to get information about freezing and unfreezing, but I attempted to find out teachers' attitudes towards multiple innovations and how they prioritise amongst competing professional development initiatives, deal with time constraints and maintain an element of work/life balance.

My final research question was as follows:

- ' How can cultural theorists and conceptual frameworks help us to understand the complexity of introducing innovative ways of working to teachers and students, specifically using reflective practice, developing cultures of thinking and using visible thinking approaches to thinking and learning in School X?'

This was another question that was in many respects answered through this case study, as the complexity of introducing MTV was, to some extent, clarified through my investigation and the interviews. In addition, the cultural theorists, particularly Schein, but also Fullan, Perkins and Trompenaars, also seem to help us in our understanding of this question.

The Case Study and the Semi-structured Interview Design.

The focus of my research was a number of people who work together but have different roles and different perspectives, from teachers to coordinators and school heads, interns and students and their parents. All these stakeholders are involved in learning, and the implementation of Making Thinking Visible is part of the espoused aims of School X in its attempts to become a 'professional learning community' (Stoll 2007). The advantage of

approaching my research as a case study was that I aimed to provide ‘an in-depth picture of a particular area of the educational world’ (Drever 1995) - in this case, Making Thinking Visible in an international school of 1400 pupils from 3-19 years old. According to Bell (1987 pp 8-9) ‘Case Study is concerned principally with the interaction of factors and events’ and

> ‘…it allows the researcher to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work’.

I needed to establish a three-dimensional picture which illustrated ‘relationships, micropolitical issues and patterns of influences in a particular context’ (Bell 1987 p 9) and I was able to gain access to the information through my role as a member of the faculty, as the MTV coordinator and as an informal leader and participant in the after school study groups.

One drawback to the case study method is that I, as the researcher, selected and gathered all the information, making it difficult to cross-check information and there was always the danger of bias. That is true, but my interest and involvement made me alert to possibilities, connections and opportunities to discover and, to some extent, to shape the research into action research as it developed, particularly as the study group evolved as a micro community. My role as the coordinator compels me to be an advocate and a champion of MTV and to play an active role in the study groups and in professional development around MTV. As a member of the informal MTV network promoted by the Harvard Graduate School of Education I could meet with people in other schools also working with MTV, and so gain insight into how my particular school was similar or different to other schools in its implementation of MTV. My research stance would be classified as feminist by Robson, because I feel it essential to acknowledge ‘the emotional aspects of such research and the

value in emphasizing commitment as against detachment' (Robson 1993 p 289). As the main premise behind my semi-structured interviews was that the affective factor is crucial in the implementation of an innovation, it is unlikely that I would seek to distance myself totally from the research process itself and approach it as a purely detached and clinical researcher.

As part of the case study I collected useful documentation. Robson (1993 p 5) describes case study as a strategy 'using multiple sources of evidence'. There is no shortage of documentation of the study groups, with documentation from many years available on the school's network and on BlackBoard (an example of documentation is in Appendix V). Documents relating to School X are freely available on the shared network, and their availability is evidence of the school's culture of openness and attempts at knowledge-sharing. My role and responsibilities are contained in the job description for the MTV Coordinator, and the protocols used by the evolving study group are part of my documentation for this case study, but arise from the nature of MTV itself as a culture of knowledge - sharing and collaborative learning (Appendices I - XI). I include a sample MTV routine taken from the Visible Thinking Website (Appendix VII), and the Learning Credit document (Appendix VIII) which describes the requirements for potentially gaining an incremental pay increase as a result of attending three Learning Institutes and completing follow-up. The school's mission statement (Appendix II) casts light on the importance of vision at the school. There exist many more documents relating to recruitment, the Institutes and other components of the MTV innovation, but I have selected those to which I refer directly in this study, and which need to be included in order to clarify my research questions relating to Schein's psychological safety theory.

I decided to conduct semi-structured interviews as part of my research. I wanted to build on the tacit knowledge of members of School X's teaching staff, and further my interactions as a researcher with the participants in my case study. I hoped through this case study to 'investigate and report the complex dynamic and unfolding interactions of events, human relationships and other factors in a unique instance' (Cohen, Manion and Morrison 2000 p 181). The advantages of having a focused yet semi-structured interview were that I could establish a clear framework beforehand to simplify my analysis, yet I could also be fairly flexible in following up ideas as they emerged and probe people's responses and investigate their motives and feelings. The disadvantages of interviews were that they would be time-consuming, and I was aware of the danger of bias, particularly as people were aware of my role as MTV coordinator and might want to say the 'right' thing or please me, or that I might want to hear certain things which would influence my ability to be objective.

The Interview Schedule

My starting point for the interview schedule was to establish a few facts such as the number of years the teacher had worked at the school, the age and subject they taught, and how much they knew about MTV. I wanted to get a clear picture of the extent of their participation in MTV's ten components. I also wanted the respondent to define Making Thinking Visible. With the research questions at the forefront of my mind, I used Schein's eight factors of psychological safety to attempt to establish how the teacher saw the school's vision, his/her own vision and the underlying assumptions about working as a teacher in his/her school culture. I asked questions about all of the components of the MTV innovation, using Schein's eight factors, including formal and informal training, the amount of teacher control the interviewee felt, the pacing of the MTV innovation, the influence of family groups and

teams, role models and coaches. I also asked what effect the proposed Learning Credit and the Heads' appraisals had on teachers' uptake, which would be categorised by Schein under reward and discipline systems. The interview ended with a question about prioritising in the face of multiple innovations, and an open 'sweeper' question about MTV and institutionalisation (see Appendix X for a complete interview schedule and answers from Teacher 3).

My questions were a mix of both open and closed questions, depending on the purpose of each question. Often, there was a follow up probe of 'why' or 'why not' which could be used depending on the previous answer. Some of the questions were completely open, encouraging a long and thoughtful answer, with no prompting. Some questions ask for a less expansive answer, such as 'What would you say are the three most important values at your school?' By limiting the interviewee to three answers, I hoped to get clear, concise answers and to save time in transcribing and to ensure that the interviews were not too long. Some completely open questions, had the potential for long and revealing answers, for example 'What do *you* personally value most for your students in their learning?' Most of the closed questions used a Likert scale from 1 to 3, ranging from 1 = not at all, 2 = somewhat, to 3 = a great deal.

I piloted the interview with a colleague, and he made some useful points which resulted in some modifications. I tried taking notes as he spoke, and he slowed his speech in order to accommodate my writing. He also commented that sitting side by side and being able to read what I was writing helped him to verify that he had said what he meant to say and that I had recorded it accurately. This respondent validation was an important aspect of the methodology that I used throughout the interviews. He also found that lack of eye contact

while I wrote gave him 'thinking time' so that he could formulate his answers without the pressure of me looking directly at him. I later found that other interviewees were not so succinct in their responses and that my pilot interviewee had been very sparse in his responses, making it easier for me to take down his replies verbatim. With subsequent interviewees, I had to summarise some of what they said, and I was aware of the danger of 'selective' summary so I checked back with them constantly to ensure I had all the important points included. This awareness of my possible bias and the need 'for events and situations to be allowed to speak for themselves rather than to be largely interpreted, evaluated or judged by the researcher' (Cohen et al p 182) is an important part of the case study method. The pilot interview lasted fifty minutes, and the subsequent interviews all lasted from forty five minutes to an hour.

Preparations and Formalities, Ethical Considerations

I sent an email to the Director and the Heads briefly explaining my research and asking permission to conduct interviews during lunch periods, free periods or after school, on school premises. I had a very encouraging email back from my Head, wishing me luck. Denscome (2002 p 194) stresses the need for research to 'respect the cultural norms of the society within which it is conducted'. This encouragement from my Head, and subsequently from other members of the educational leadership team, as well as the explicit endorsement of action research projects contained in the Learning Credit Document (Appendix VIII) reinforce the awareness that action research is very much a desired aspect of the school's explicit culture. I observed protocol and obtained 'explicit authorization' (Cohen et al 2000).

I was mindful of the ethical considerations outlined in the literature (Cohen et al, 2000, Bell, 1993, Robson 1993, Drever 2003, Denscombe 2003). Before each interview I sent an email reminding the interviewee of the time and location of the interview, and I gave a short explanation of the purposes of my research, writing that I was investigating 'Visible Thinking' and that I was interested in a number of factors affecting uptake, including professional development and psychological safety. In the preamble to each interview, I reiterated the points of the email, and explained that everything they told me would be completely confidential, but asked permission to use their answers in my dissertation and to quote them anonymously in my writing, which would be read by others, including colleagues, the Director and Heads, in addition to my examiners at Bath University. All participants agreed for me to use their answers.

It was important to preserve the anonymity of the interviewees, particularly as they were answering questions about their vision, their attitudes towards innovation, appraisal and the effectiveness of professional development initiatives in the school. Ethically, I had to ensure that when I wrote up the interviews and made recommendations, none of the statements or quotes could be directly attributed to any particular individual, or could be taken as criticism of individual Heads or specific divisions of the school. It was clear that all of the interviewees must trust the confidentiality of the interviews in order that they gave their real opinion and spoke the truth, without feeling constrained by fear of recriminations or criticism from other members of the school community. I was also conscious that the interviews were 'a social, interpersonal encounter, not merely a data collection exercise' (Cohen et al 2000 p 279). The people who I interviewed needed to feel secure to talk freely, particularly when they knew little about MTV or expressed negative views about the policies of the school or about the MTV innovation itself.

The location of the eleven interviews was almost always in the classroom of the interviewee, except for three times when, for privacy, the interviewee requested that the interview took place in my room. It seemed that the teachers I interviewed felt more comfortable in their own familiar environment, and I hoped that they would talk with more confidence because of the familiarity of their own territory. I visited another international school in Europe to interview one teacher in her classroom. I invited a teacher from the Australian school to be interviewed while she was visiting Europe, and she came to my classroom for that. In all cases, I gave them a blank copy of the interview schedule to have in front of them while I wrote on mine. I sat next to them, feeling that they could look over my written answers and verify that what they said had been truly and faithfully reproduced. Often, I restated what they had said, to make sure that I'd written it down correctly. This recapitulation was especially useful for verification after a particularly long answer from them.

Sampling

The population of potential interviewees was the 160 teachers at School X. Of this population I identified 25 teachers who had been exposed to an MTV professional development session - Looking at Learning - on March 9th 2008, and I was able to identify teachers who had taken part in the four day MTV Summer Institute, although about a third of those who had attended had now left the school. Using a purposive sampling strategy, I intended to handpick interviewees on the basis of my judgement of their typicality. It was important to include both veteran and less experienced teachers, and to include teachers from all four divisions. I excluded the Director, Heads and Deputies who generally do not work directly in classrooms, and interns, who only stay for one year. I wanted to include at least

one ‘heavy user’ of MTV and a representative mix of people with varying degrees of involvement and knowledge of MTV. I included one teacher from a similar international school in northern Europe (School Y). This school, like School X has been working with the Project Zero International Schools Consortium, and has had a similar length of time and involvement with the Project Zero researchers and working with MTV ideas and thinking routines. This school hosts the MTV Spring conference with Dr. Ritchhart and other members of the Project Zero team. I also included in my sample a teacher from a large private school in Australia working with MTV with Dr. Ritchhart as the consultant. In selecting this sampling strategy I was

> ‘mindful of the purposes of the research, the time scales and the constraints of the research, the methods of data collection, and the methodology of the research. The sampling chosen must be appropriate for all of these factors if validity is to be served’. (Cohen et al 2000)

In total, I interviewed eleven teachers from March to June 2008, in The Netherlands and Brussels.

Triangulation

The interview schedule had some internal validity in the form of repeated questions in different sections. The responses from School X were triangulated by the lists of participants in the Institutes, the attendance lists from study groups, and by the two interviews I conducted with teachers from other schools where they are also implementing MTV. As much of the interview was about attitudes and opinions, it could not be triangulated. One drawback to my study was that, due to time constraints and my desire to

interview classroom practitioners, I did not interview the Heads and Deputy Heads, who have more access to classrooms and can see who is using MTV routines and which routines are used frequently. They would have had different perspectives and attitudes about the aspects of psychological safety I explored. The documentation of the Learning Credits, the Mission Statement, study group discussions and protocols, provide further triangulation of the information found in the interviews.

Conclusion

It was important for this research to have a purpose and to lead to improvement in the uptake of MTV in School X, partly because MTV is a well researched, user friendly, 'good thing' for student learning and fits very well with the vision of the school and its espoused beliefs about how people learn and thrive. MTV has the support of the Educational Leadership Team, is well-resourced and came from the 'grass-roots' need for conversations about our roles as educators and the Project Zero approach to learning already established at School X (Bruce 2007). It seems to be sustainable, as it co-exists with the other multiple innovations in the school, complementing them and enhancing them. As the MTV coordinator I wanted to be engaged in action research, so that the implementation of MTV could continue and be informed by what I had discovered. By approaching this case study as action research, I am able to present the findings to colleagues and leaders in the school, with a view to moving things forward. Examining the specific cultural constraints and speculating about the need for psychological safety through semi-structured interviews, gives me insights that a survey, formal interviews, questionnaires or other more quantitative approaches might not achieve. Being able to probe and question people's beliefs, values and attitudes, as well as collecting primary source documentary evidence of the evolution of MTV at the school, with the added

bonus of interviewing teachers from two other MTV schools, is helpful. My role as MTV coordinator puts me in an ideal situation to construct a strong case-study and to use the methodology outlined to achieve my purpose.

Chapter 4 Presentation of the findings

Introduction

In this chapter I present the findings from the interviews conducted during the period March to June 2008. I begin with a preliminary paragraph that relates to the research question: How much are teachers using MTV in their classrooms and what factors encourage them to do so? In the subsequent sections of this chapter I present the results of the interviews and other documentation, using the eight categories of Schein's conceptual framework of psychological safety. This helps us to answer the second research question: What cultural factors can be identified as either lacking or present that might increase the chances of the innovation becoming institutionalised? The results of the interviews also help me to consider my third research question: How do Schein's cultural dimensions and theories of transformational change in organisational culture apply to the MTV innovation?'

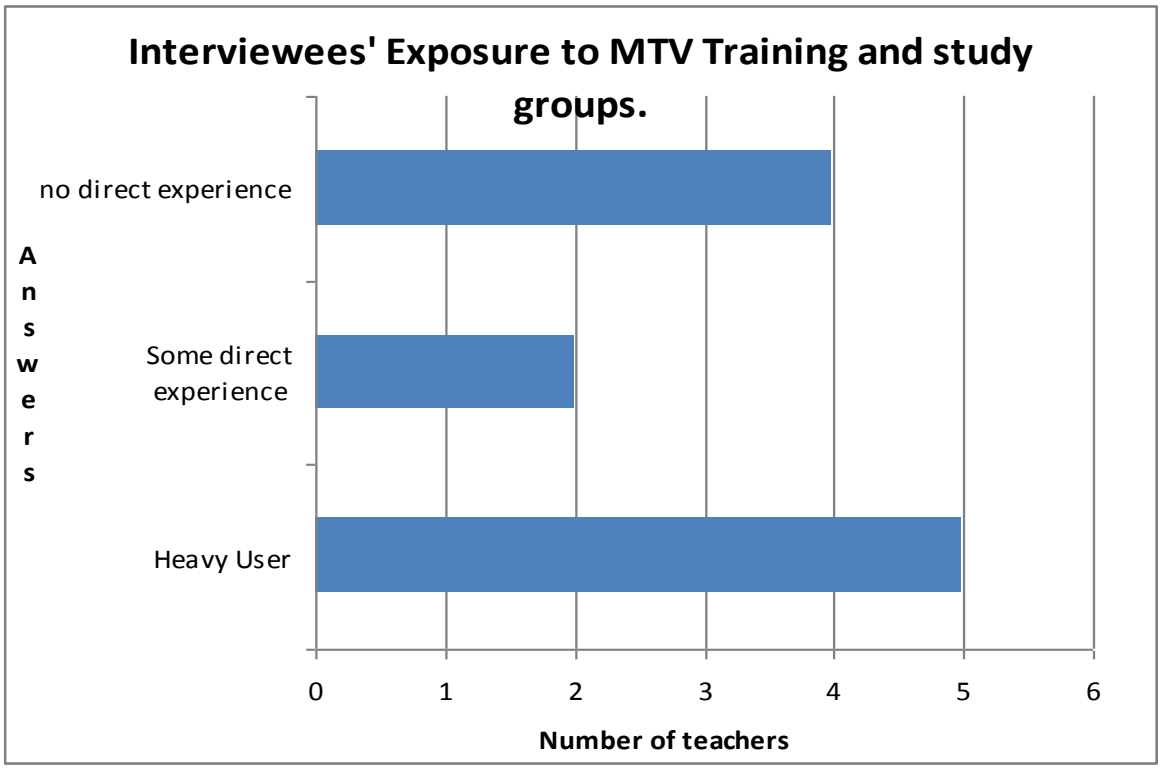
The eight parts (entitled Steps 1-8) of this chapter, following the preliminary paragraph, refer to Schein's eight steps towards psychological safety in introducing innovations into a culture. He states that they are not hierarchical and do not need to be in any particular order, as they all carry equal importance (Schein 2004 p 332). These correspond to my Table (see page 50-52) illustrating Schein's theory, constructed to show how MTV was being implemented in schools, and how his steps include the ten components of the MTV innovation.

Preliminary Paragraph

Research Question: How much are teachers using MTV in their classrooms, and what factors encourage them to do so?

The following chart shows the range of experience of MTV training that the interviewees had been exposed to.

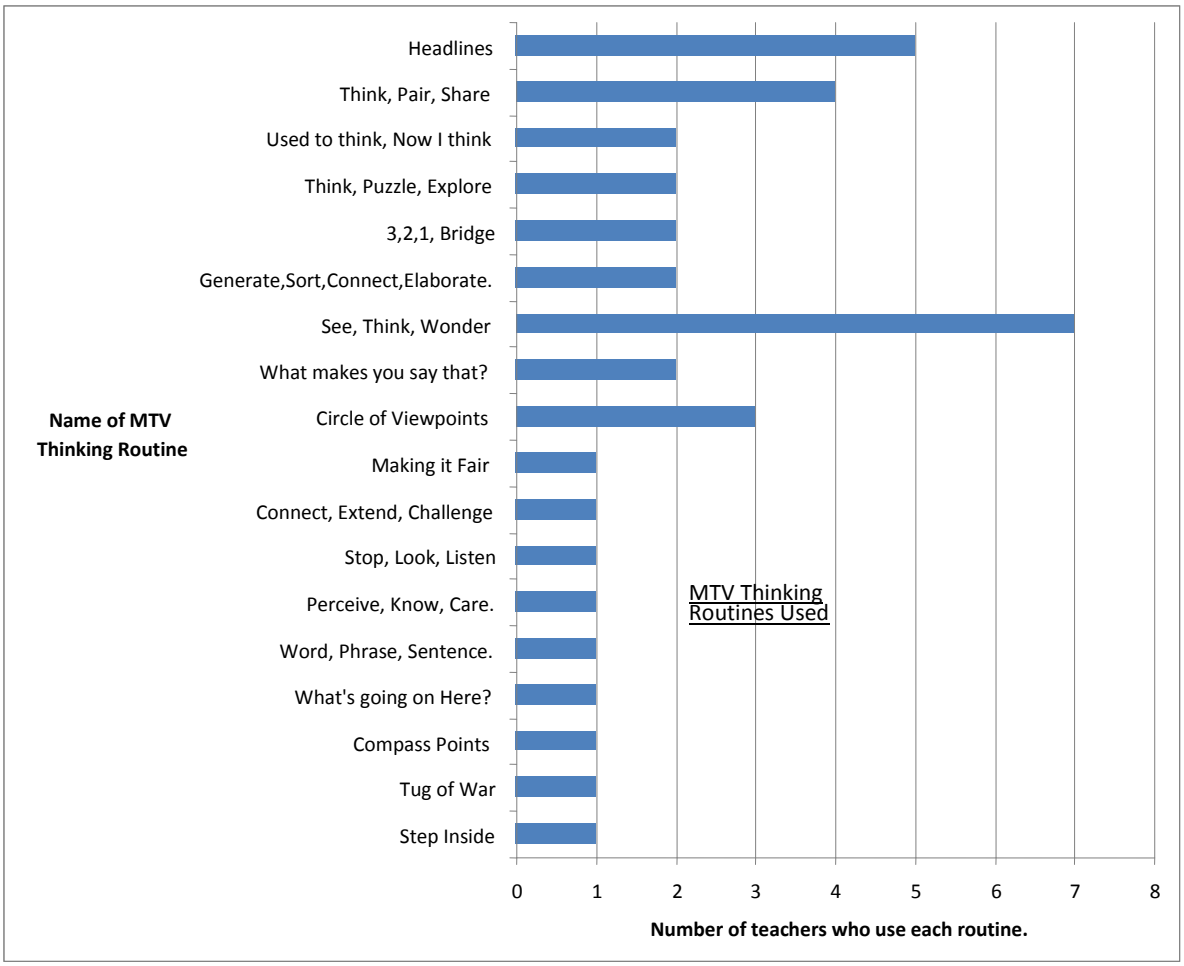
Chart 1



Of the eleven teachers interviewed, ten of them used one or more MTV *routines* in their classroom. One teacher, who used no MTV routines, had received no training in MTV and had never attended a study group. The six heaviest users of MTV routines (who used between three and nine routines) had all attended some form of training in MTV. Four other teachers used only one or two MTV routines. Ten of the eleven teachers used MTV

strategies such as self-reflection, brainstorming, observing, and looking at different sides of an issue. Most used MTV routines were SEE THINK WONDER (used by seven teachers) and HEADLINES (used by five teachers).

Chart 2



Step One – Vision

Schein's conceptual theory states that for change to occur there must be a compelling positive vision, articulated and widely held by senior management (Schein 2004, p.332). This was addressed in the first part of the interview. The verbatim comments can be found in Appendix XI.

A) School vision

All nine responses from School X indicated explicit knowledge of the school's mission statement - Everyone Challenged, Everyone Included, Everyone Successful, Independent Learner, International Citizen (see Appendix II). Seven of the nine teachers from School X mentioned 'inclusion' specifically, and three mentioned the word 'challenge,' whilst three mentioned student 'success.' One spoke of the 'fostering of internationalism, being international citizens and being aware of the wider world.' Two mentioned 'children being independent learners.'

One teacher articulated the need to 'make what we teach relevant to the 21st Century.' Another teacher said that 'I think there is a belief that to be innovative you have to be experimental,' and one teacher said 'We think we're good. We value the fact that the school has a good reputation.' Other common responses included the notion of 'respect' for all. One teacher quoted the three words 'inclusion, success, challenged' and referred to this as 'our mantra'. Teacher Ten, from School Y, was the only person to mention 'enquiry and collaboration' as part her school's vision. Teacher Eleven, from School Z, quoted her own school's three guiding principles of 'respect, cater for individual differences, for each individual to achieve their potential.'

Underlying Assumptions of the School

Eight of the eleven interviewees talked about the expectation for 'hard work' and about the strong work ethic at the school, and the assumption that teachers will be 'dedicated', 'motivated' and 'willing to sacrifice life/work balance to improve everything for the school'. One teacher feels that she is expected to be '100% available…(or 150%)' and another

mentioned that ‘during the school year you are 100% available.’ Another said that ‘it’s assumed that people will work really hard, sometimes more than they should.’ One teacher expressed the assumption on the part of the school that ‘we can deal with it!’ Two teachers stressed the need ‘to work towards the values of the school’ which went further ‘than just support of the mission statement, but belief, and it guides your own approach to teaching.’ One teacher spoke of ‘the need to meet the values that have been established’. Two teachers used the word ‘passion’. ‘Differentiation’, in terms of catering to individual differences amongst students, was mentioned by four teachers as an expectation for teaching staff. Thinking about ‘how children are learning’ and the assumption that ‘all kids can learn’ were mentioned by two teachers. Continuous professional development was put forward by one teacher as an expectation, and another teacher said that it was an expectation at School X ‘that people are motivated to want to continually learn’. ‘Trust’ was mentioned by two respondents as being totally implicit in the underlying assumptions of School X - ‘They trust the teachers’ and ‘that you will do a good job, I’ve never had any feeling otherwise’.

B) Vision (Personal)

One teacher said that ‘I value all those three things, I share the school’s values’. S/he was the only teacher who voiced an identical personal vision to the school’s mission statement. Other responses were extremely varied, although there were several recurring ideas, including the need to ‘create lifelong learners, regardless of a grade attached’ (three responses) and for the teacher to ‘follow where the children’s interests are leading you’ (three responses).One of those three said ‘Flexibility. We shouldn’t be ruled too much by a curriculum. We should seize the moment and follow the interests that are really important to them’. ‘Motivating children to learn’ was mentioned by two respondents, with a strong emphasis from four

respondents on the joy, happiness, pleasure, and love of learning they hope to instill in their students.

The affective element of learning was mentioned by seven respondents, who emphasised the need for students to feel 'comfortable' and to be 'safe' and to get 'satisfaction' from learning, and for their 'emotional needs' to be met. One teacher emphasised her awareness of culture shock and the effect of moving on families. 'Social, empathetic learning' and 'caring' was stressed by two teachers as part of their personal vision for their students. One teacher expected his/her students to be 'analytical' and one teacher mentioned 'creativity'. One respondent wanted his/her students to 'reflect on what they're doing' and two wanted their students to take 'academic risks' and to 'experiment'. Only one teacher (Teacher Ten, from School Y) used the words 'collaboration' and 'community' as part of his/her personal vision.

Step Two. Formal Training.

Schein's conceptual theory states that for change to occur members must be provided with new knowledge and skill and necessary formal and informal training (Schein 2004 p 332). The interviews showed that five of the eleven teachers felt that they had not had sufficient formal training in MTV, whilst four felt that they had had 'somewhat' enough training. The three teachers who used MTV routines the most were the teachers who said that had received 'a great deal' of formal and informal training. These three included Teacher Ten and Teacher Eleven, from Schools Y and Z.

Chart 3

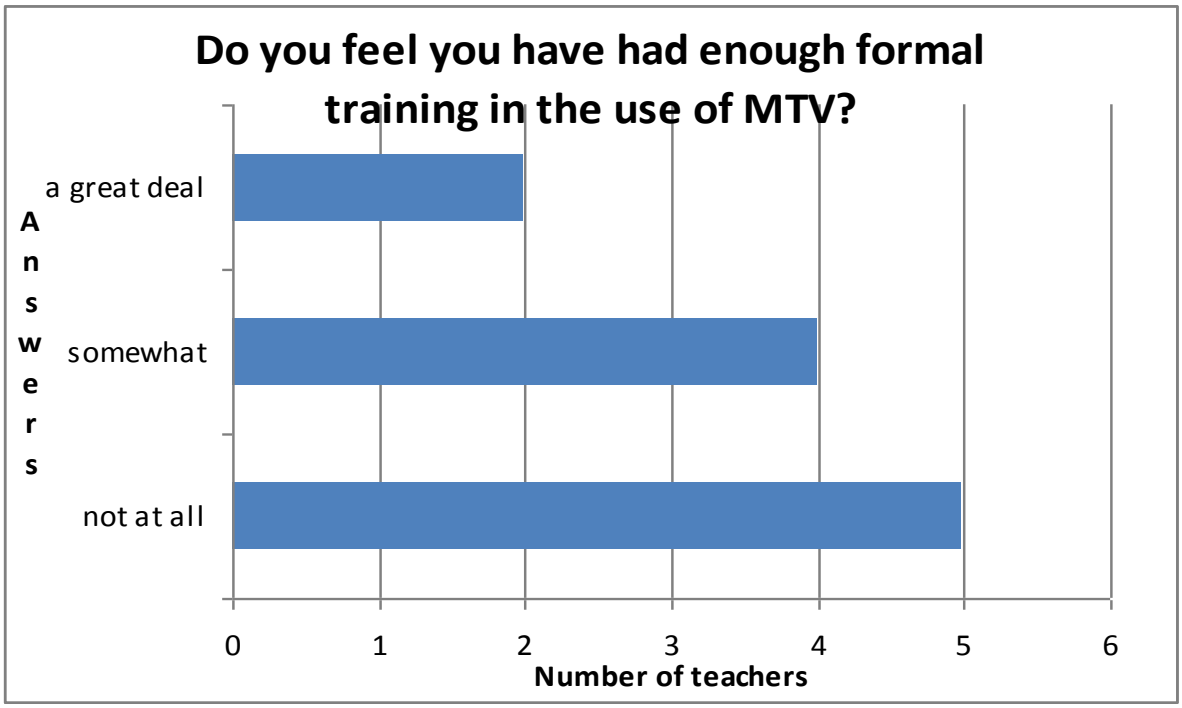
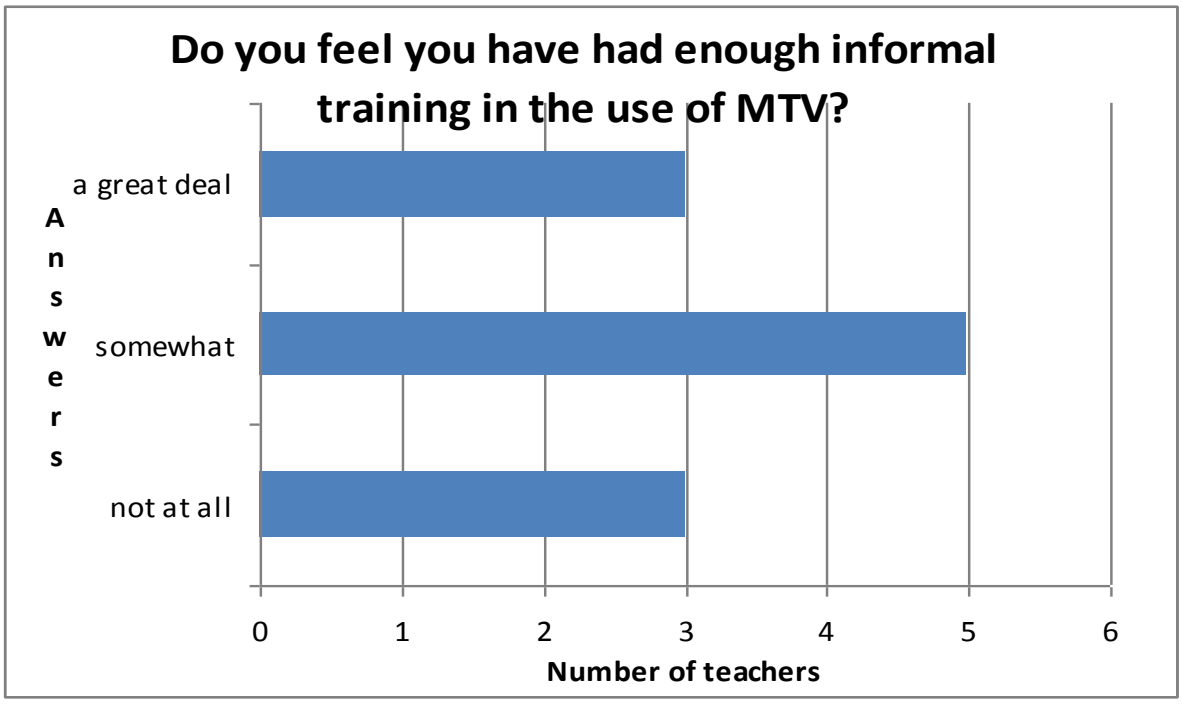


Chart 4



The comments revealed that one teacher, although s/he had done the four day MTV Institute, 'didn't follow through enough' and that one teacher wished that s/he 'worked with

colleagues who believed in MTV.' One teacher, a heavy user, stated that 'I will always go on learning. There's never enough.' The predominant response, from eight out of eleven teachers, was that they had not received enough formal or informal training in MTV.

Step Three: Optimal Learning Process.

Schein's conceptual theory states that if change is to occur and the formal training is to take hold, the learners must have a sense that they can manage their own informal training process, practice, and method of learning. Learners must design their own optimal learning process. Learners must feel involved (Schein 2004 p 332).

Respondents were asked how involved they felt in using MTV ideas in their classrooms, and how much they felt in control of the management of their own learning, their opportunities to train and to practice at their own optimal pace and in their own way. Four teachers felt 'a great deal' involved in using MTV, and they included the three heaviest users who had received the most training. All of the interviewees except one felt that they were 'somewhat' or 'a great deal' in control of their own learning and could manage their optimal pace their own way.

Chart 5

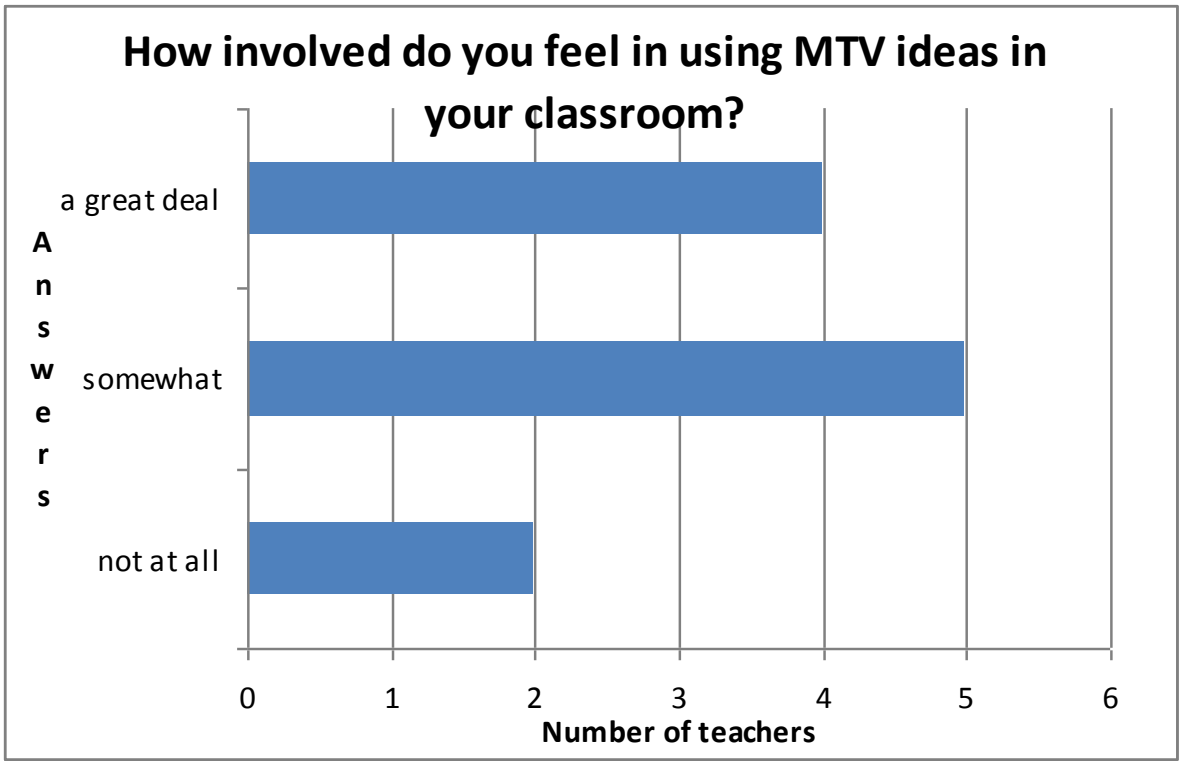
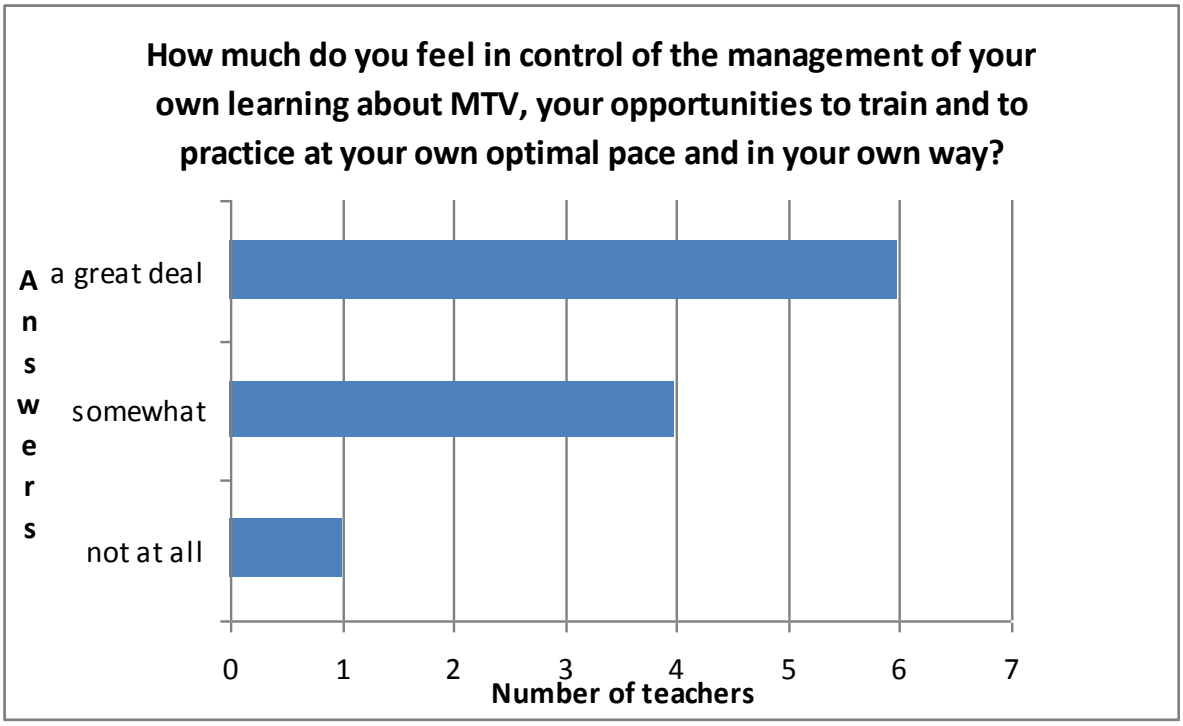


Chart 6

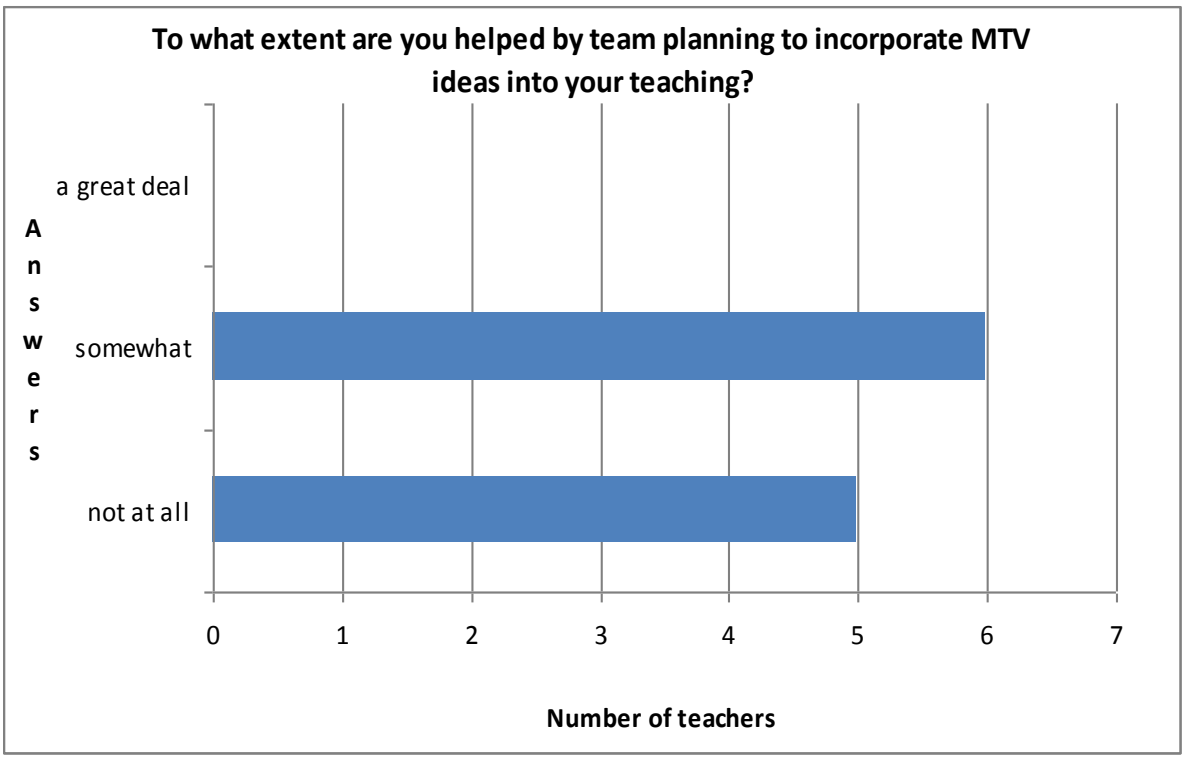


The interview comments revealed that although teachers felt able to learn at their own pace there were a number of factors which inhibited their learning about and use of MTV. These factors were described as 'other constraints', 'school housekeeping', and 'the pace of the school'. One teacher felt that School X is a 'train track school' (implying fast-paced and relentlessly moving onwards) and another said 'I'm always running behind. I can't take advantage of opportunities that are available, because I don't have time'.

Step Four -Informal Training of relevant 'family' groups and teams.

Schein's conceptual theory states that if change is to occur, because cultural assumptions are embedded in groups, informal training and practice must be provided to whole groups so that new norms and new assumptions can be jointly built (Schein 2004 p 332). Interviewees were asked to what extent they were helped by team planning to incorporate MTV ideas into their teaching. Five teachers answered 'not at all' and six teachers answered 'somewhat'.

Chart 7



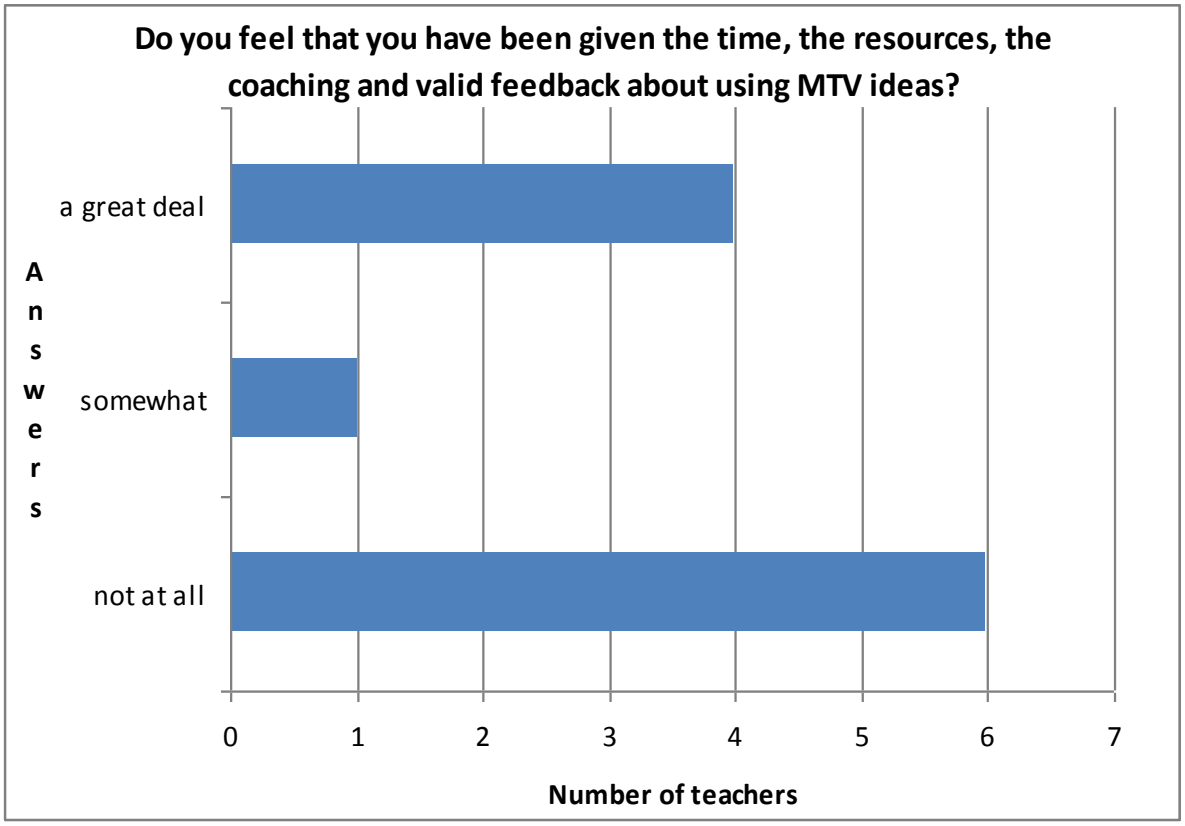
A follow-up question, asking how they felt about trying MTV ideas in their classrooms, prompted all of the interviewees to say that they felt interested, or supported or encouraged in their use of MTV, because a strategy might be 'practical' or 'the emails come' (inviting them to study groups) or 'the administration supports it'. One Middle School teacher felt isolated, 'as it feels I'm the only one with background knowledge of MTV' and another felt that MTV is 'not something I hear about at faculty meetings, that middle school teachers seem very involved with'. One Early Childhood Centre teacher felt it would be good to have a faculty focus on MTV for the year, because s/he felt that the focus had been on other things before. One teacher mentioned that 'In some teams there are people in the team who see the

value of it. In some teams they haven't had the training, they don't understand it, so it's harder to incorporate'.

Step Five -Practice fields, coaches, and feedback.

Schein's conceptual theory states that learners cannot learn something new if they do not have the time, the resources, the coaching and the valid feedback on how they are doing. Practice fields are particularly important so that learners can make mistakes without disrupting the organisation (Schein 2004 p 332).

Chart 8



Six teachers felt that they had not been given the time, the resources, the coaching and valid feedback about using MTV ideas. Four teachers felt that they had been given 'a great deal' and one felt that s/he had been 'somewhat' given these things. The six teachers who answered 'not at all' felt that MTV had not been the focus of observations, that MTV was optional and that they lacked coaching opportunities. Three of the four teachers who said they had had 'a great deal' of time, resources, coaching and valid feedback, were the heavy user from School X and the two teachers from Schools Y and Z. The heavy user from School X cited the MTV Institute, visits to Harvard, the MTV conferences, the study groups, observations from parents and feedback from students as being useful, but s/he also noted that s/he lacked coaching.

Step Six – Positive Role models.

Schein's conceptual theory states that the new way of thinking and behaving may be so different from what learners are used to that they may need to be able to see what it looks like before they can imagine themselves doing it. They must be able to see the new behavior and attitudes in others with whom they can identify (Schein 2004 p 332).

The interviewees were asked who they thought was using MTV the most and the least, and if they had observed the use of MTV in different contexts. Seven teachers named the Elementary School and five named the Early Childhood Centre as using MTV the most (some named them both). Nine teachers estimated that MTV was used least in the High School, because of outside 'constraints' like exams, and the fact that the secondary divisions 'are more subject/content oriented' rather than concerned with ' pedagogy'.

Chart 9

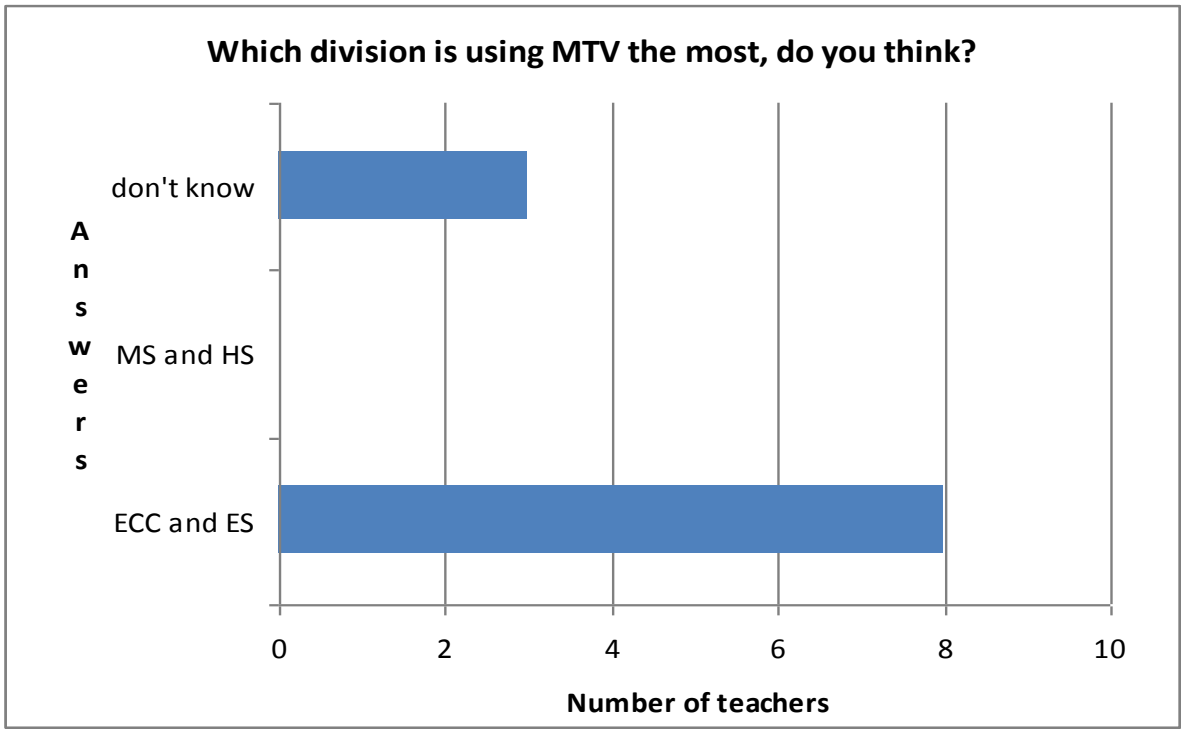
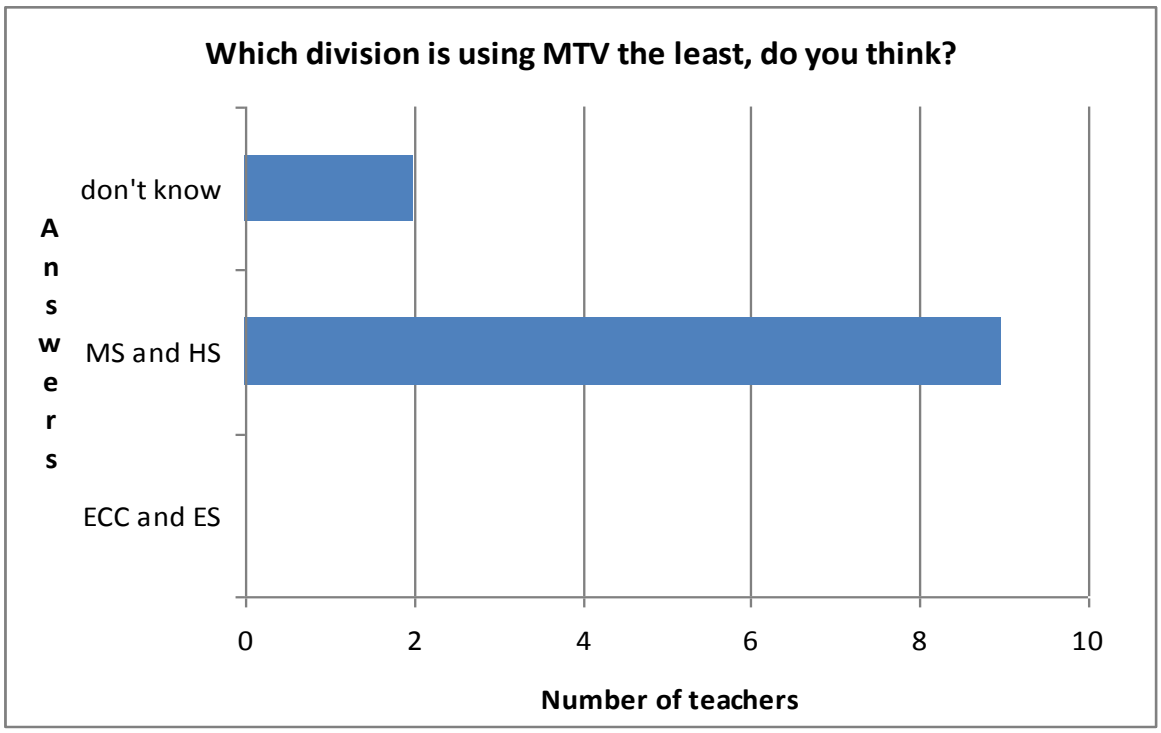


Chart 10



When asked ***who*** was using MTV in the school, answers varied from 'I don't know' to estimates of between ten and twenty five people. There was a belief that ECC and ES teachers were using MTV the most. When asked to name people using MTV, three interviewees named one, three and seven colleagues, but the other eight interviewees were unable to name any users. Three teachers had observed the use of MTV routines in classrooms, faculty meetings and study groups 'a great deal'. The majority of interviewees had observed the use of MTV routines 'not at all' in classrooms, faculty meetings, study groups, team planning and on the MTV website.

Step Seven – Support groups in which learning problems can be aired and discussed

Schein's conceptual theory states that learners need to be able to talk about their frustrations and difficulties in learning with others who are experiencing similar difficulties so that they can support each other and jointly learn new ways of dealing with the difficulties. (Schein 2004 p 332). Interviewees were asked if they had been involved in the after school study groups (FEGs) and if they had found them helpful. Four teachers answered that they had attended 'not at all' and three answered 'somewhat.' The interviewee at School Z noted that at his/her school the study groups all took place during the school day. All who had attended found the study groups helpful, all, except one, 'a great deal.' The groups were described as helpful for a number of reasons, including being 'beneficial to see ideas in practice', 'to be bathed in MTV language and thinking and practice', to 'be a participant in a metacognitive process' and to enable a teacher to 'get my students to do some self-reflection.'

Chart 11

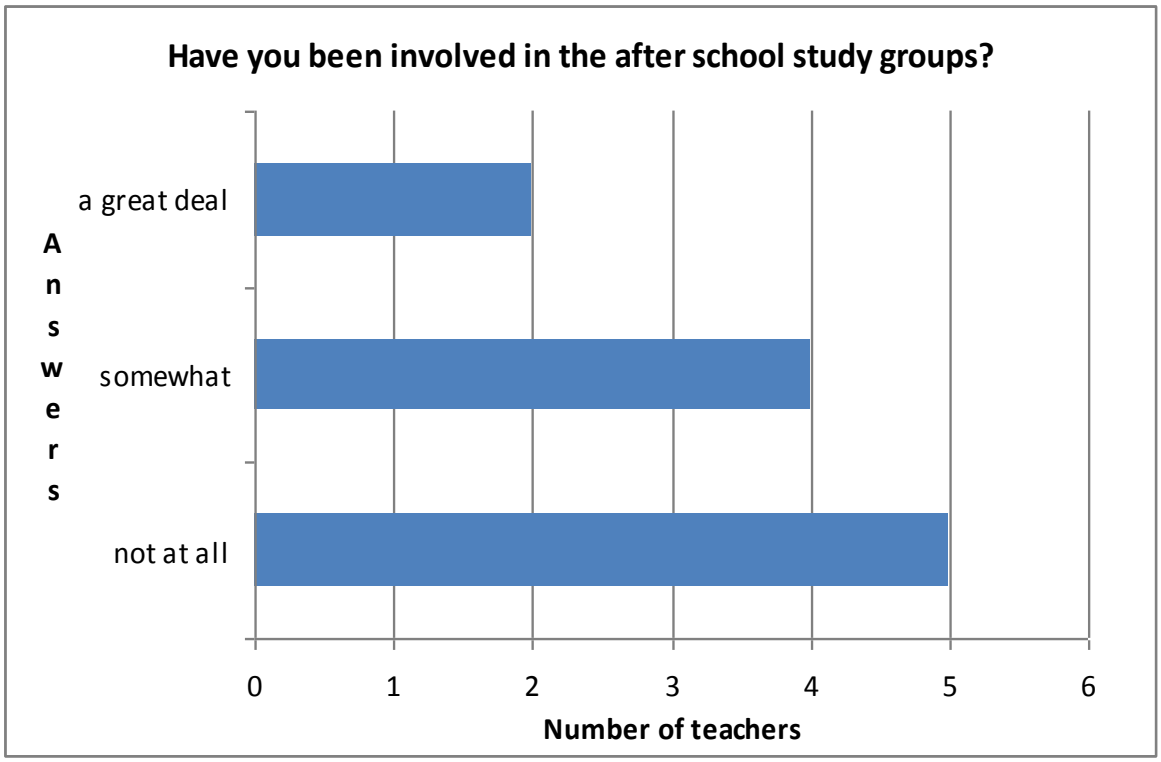
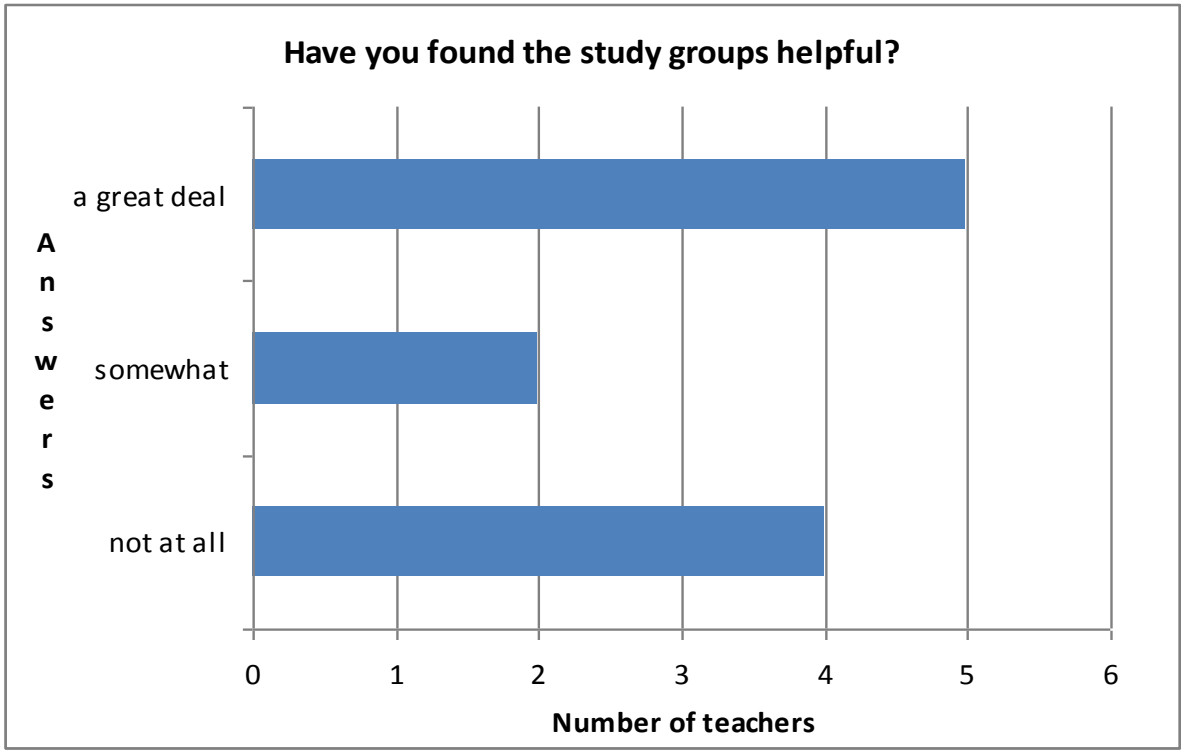


Chart 12



Step Eight - Reward and Discipline systems

Schein's conceptual theory states that in order for organisations to innovate, they need to have reward and discipline systems and organisational structures that are consistent with the new way of thinking and working – both the reward system and the discipline system must support or punish the new ways of working (Schein 2004 p 332).

Eight of the interviewees from School X had a basic knowledge of the Learning Credit system (see Appendix VIII), which had been gained from emails sent out by the Faculty Association/Works Council Chairperson. One interviewee said s/he knew 'very little' about the Learning Credits. The two teachers from Schools Y and Z do not have learning credits, but they answered hypothetically. The Learning Credit system was very instrumental in encouraging two teachers to attend study groups, to do action research and to learn more about MTV. In the other nine cases, six teachers did not consider that the learning credits would encourage them at all, or would only encourage them 'somewhat' to do action research, attend study groups or learn more about MTV.

Chart 13

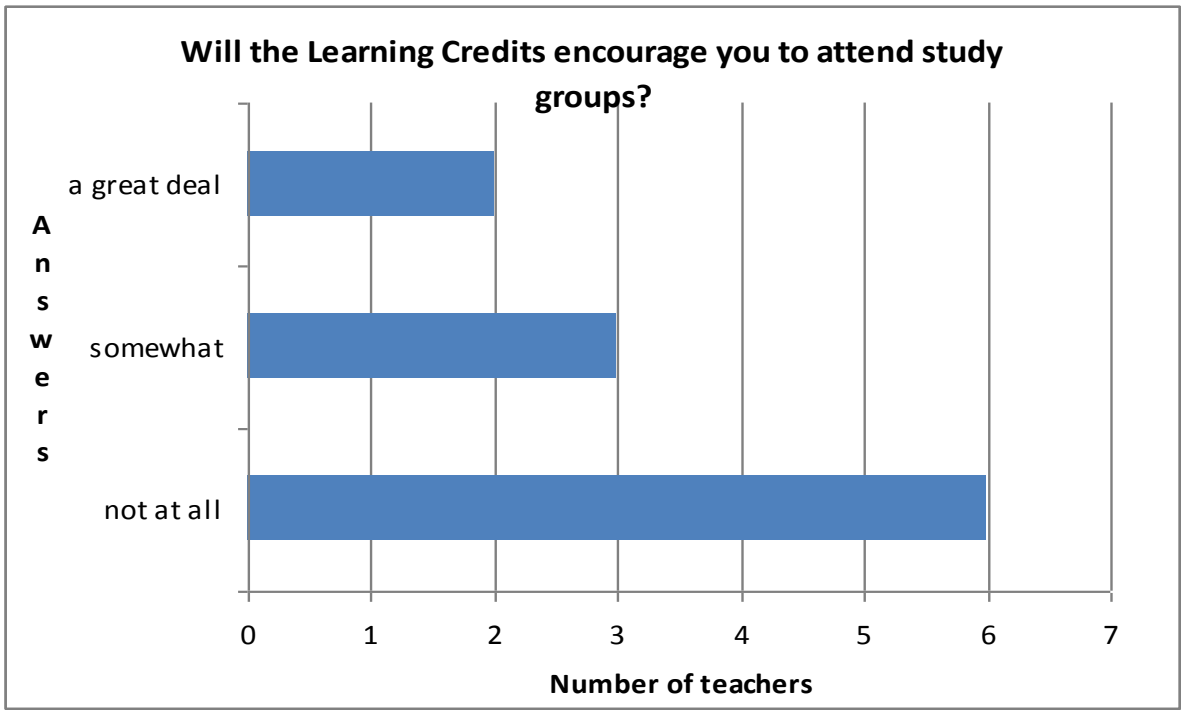


Chart 14

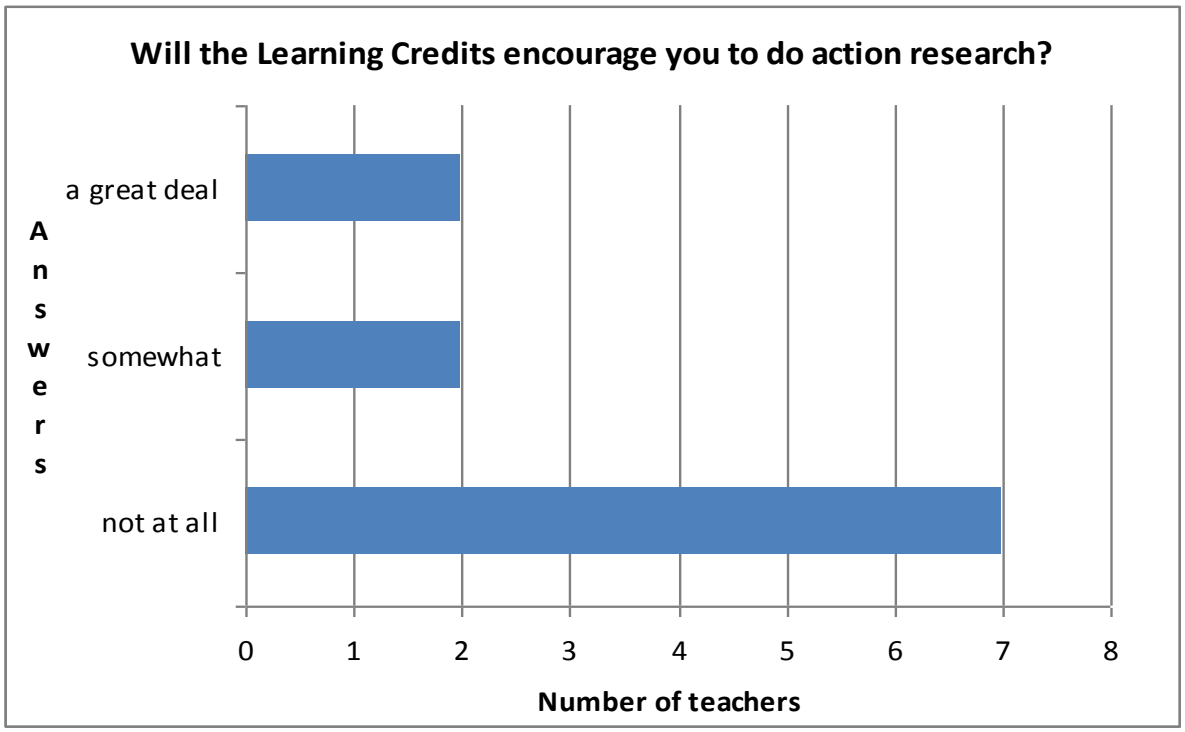
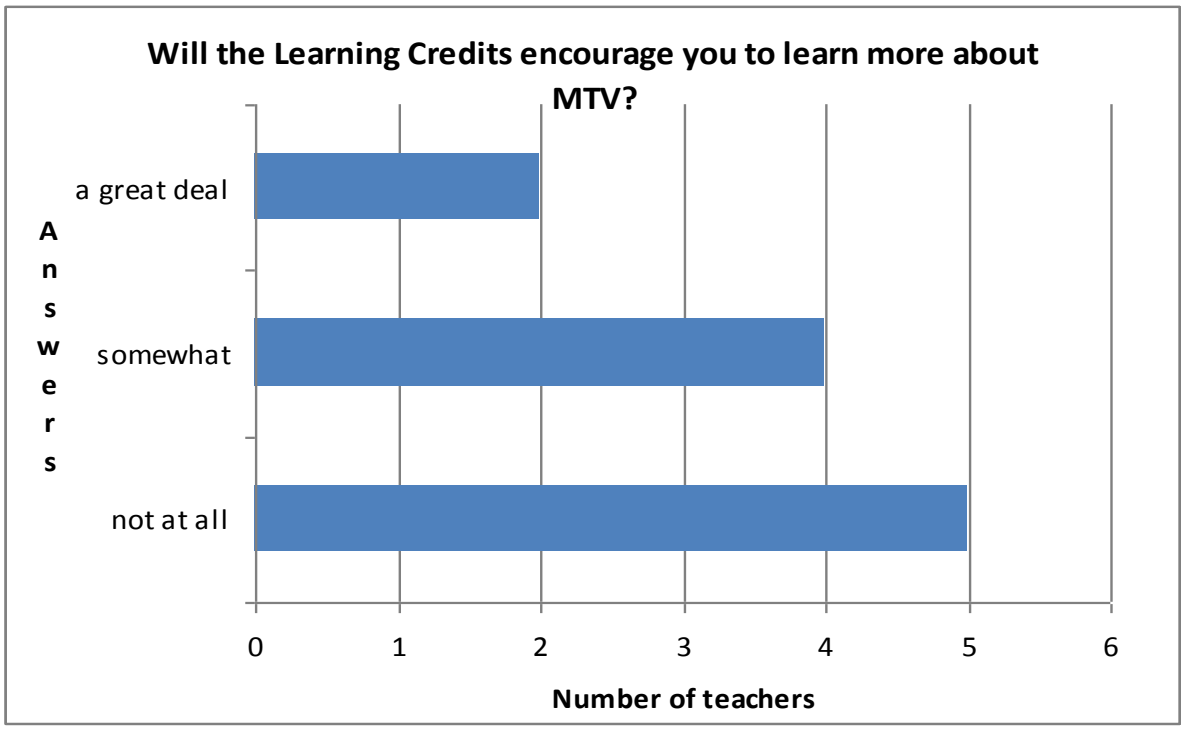


Chart 15



Eight teachers had recently been appraised by their school Head, and two had not. The teacher from School Z explained that they are not appraised formally at the school. The comments about appraisal were positive in four of the cases. In none of the cases was MTV the focus of the appraisal.

Conclusion and summary of the Key Findings

The findings reveal a broad understanding and articulation of the three schools' vision and mission statements, and similar articulations of the underlying assumptions of the school culture. There is less conscious use of repetitive terms when teachers explain their personal vision, except in the area of emotion and affect in students. The number of years at a school does not seem to reflect the amount of uptake of MTV training or involvement. Teachers use between one and nine MTV routines, except for two teachers who use none. Ten

teachers use other MTV strategies and ways of working in their classroom. The majority of teachers do not feel they have had enough formal or informal training in MTV, with the exception of the two teachers from School Y and Z. Only one teacher felt s/he was not at all in control of the management of his/her own learning about MTV. Ten felt a great deal or to some extent in control of their own learning about MTV.

Team planning was not seen by the teachers as instrumental in incorporating MTV ideas. Only two teachers from School X and the two teachers from Schools Y and Z felt that they had been given the time, the resources, the coaching and valid feedback about using MTV ideas. There was a unanimous view that the ES uses MTV routines more than other divisions, and that the HS and MS use them least, although the range of answers about who uses MTV was very varied, and showed no common understanding of where role models can be found. The responses showed that observing in classrooms, faculty meetings, study groups, team planning or on the website is not occurring except with the teacher from School Y, and with one teacher whose job gives him/her access to other people's classrooms and involves him/her in joint planning and modelling for colleagues. The results show that those who have attended study groups have found them helpful, but four of the respondents have not been to a study group. The Learning Credit system is viewed by half the teachers as 'somewhat' of an incentive to attend study groups, do action research or learn more about MTV. Nine teachers have been appraised by the Head recently, and there was a range of answers about the learning involved, none of which mentioned MTV.

In the following chapter, I will discuss the findings and how they point to important elements that are lacking at School X, if we believe that Schein's conceptual theory is a useful tool in analysing the success of the MTV innovation. The differences between the responses of the

two teachers from School Y and Z will be discussed, and the strengths of the approaches taken by the three schools will become evident through the discussion. The interview responses and the documentation will be linked to the literature review in order to highlight dilemmas, problems, successes and possible improvements in the implementation of the MTV innovation, set against the larger picture of organisational cultural change.

Chapter 5 Discussion of Findings, Recommendations and Conclusion.

In this chapter I examine my four research questions in the light of the information gathered during this case study. I look at what I found out about teachers' use of MTV with their students. Then I look at the ten components of MTV, and, using my research evidence, try to assess to what extent they are encouraging teachers to use MTV. Next, I analyse the interview data and information from the case study alongside my second research question about cultural factors, my third research question about Schein's theories, and my last research question about general theorists. The initial areas I focus on are belief systems, vision and leadership, disequilibrium, positive and negative interactions and symbolic conduct. Later, I examine sustainability, multiple innovation and the work/life balance, before briefly analysing the need for dissent and choice, and then looking again at disequilibrium, unfreezing and refreezing. Finally, I make twelve recommendations based on what I have discovered, and I finish with my conclusion.

My First Research question

The key findings go some way towards providing answers to my first research question, 'How much are teachers at School X using MTV in their classrooms, and what factors encourage them to do so?' Because of the small sample, I could only get a partial insight into how much teachers use MTV in their classrooms, but, as my sampling was fairly considered, the conclusion is that people are using between one and nine MTV routines if they have had some type of training, whether informal or formal, or through the FEGs. Most people have used the routines a few times, and it is only the heavy users who use them on a daily basis. People with no training do not seem to use the MTV *routines* at all, as they do

not know what they are. The interviews showed, however, that everyone has a broad range of *strategies* which could be considered to be MTV styles of working, including brainstorming, reflecting, mind-mapping, taking perspectives, interpreting things graphically, and questioning. The interviewees all made a good attempt at defining MTV, which shows some degree of awareness of MTV strategies, philosophy and techniques, whether or not they had been involved in formal or informal training in MTV. Ritchhart (2002 pp 86-114) discusses the important differences between *routines* and *strategies*. MTV is principally concerned with *habits of mind* and *thinking routines*, but my research evidence points to a lack of understanding and use of these routines amongst the teachers at School X.

The factors encouraging teachers to use MTV in their classroom were clearly having done the four day MTV Institute and having taken part in the after school study groups. This led the teachers to an understanding of the importance of repetition of the routines and the need to use them systematically in their classroom practice. Noticeably, the two teachers from Schools Y and Z used the most number of routines the most often, and they had attended FEGs in a variety of forms throughout the process, and been in coaching situations with colleagues where they used MTV ideas and routines. The heaviest users of MTV at School X had been involved in observations and coaching in their capacities as informal teacher leaders.

The Ten Components of MTV: to what extent are they encouraging factors?

I found that although I had identified ten components of the MTV innovation at School X, some of them proved to be somewhat ineffective in encouraging the use of MTV. The FEGs had only encouraged those who had attended, and, because of multiple innovations, the

voluntary nature of the FEGs, the timing of them (after school) and the perception that they were mainly appropriate to ES teachers, or that the Looking at Learning or LAST protocols (see Appendix VI and IV) were constraining, there was a limited attendance among the interviewees. Those who had attended regularly had found them very helpful and encouraging. The four day institute had been the most influential in encouraging the use of MTV, but even then, without follow up in the form of coaching, study group attendance, team planning and role modelling, or appraisal and feedback, teachers sometimes felt isolated and unable to put their ideas into action. As one teacher said, "I knew more before, when I did the four day institute, I didn't follow through enough". "I was keen…but other things came in". This confirms that the idea-action gap does exist even in the most well-meaning and committed teachers.

The mid-year expert visit and the three day MTV conference in Amsterdam had been helpful to the heavy user from School X, but the majority of the interviewees had not had the opportunity to attend these sessions, as they were only available to a small number of teachers working with MTV ideas. The scheduled in-service morning held on March 9th 2008 had exposed teachers to MTV, and they had enjoyed the session, but it had not led to further use of MTV routines, as it was merely a 'taster' or a reminder of using the Looking at Learning protocol and only one example of an MTV routine had been shown. Appraisal by Heads was clearly not an indicator to encourage the use of MTV in classrooms, except in the case of the teacher from School Y. Although most interviewees found the experience affirming, there was not much genuine learning reported from the appraisal, and the fact that it used an MTV format was not remarked upon by any of the respondents.

Team planning, peer-observation, role modelling, coaching and online support from the Rubicon curriculum planning tool was not a significant factor in encouraging teachers to use MTV, because it is not really happening yet throughout School X in a systematic way, and when it is, MTV is not the focus. The mentee and intern use of MTV routines in their colloquium was not remarked on by respondents, and most of the people involved in this are interns, who leave after a year, so do not have the opportunity to help change the culture by incorporating MTV ideas in their teaching.

Modelling at faculty meetings was not seen by interviewees as useful, and most of them had not experienced it, or had they not been aware of it. The MTV website was only used a great deal by the heavy user, and not at all by six of the interviewees, so it is not currently something that encourages the use of MTV amongst teachers at School X. The Learning Credit system, although known to all the interviewees except one, was not a factor in encouraging half of them to use MTV, and for the other half, was only to some extent an encouragement. Since the documentation does not focus on MTV, even if a teacher pursued the Learning Credit, s/he might never use MTV in his/her teaching, and would still get the incremental step.

My second, third and fourth research questions

'What cultural factors can be identified as either lacking or present that might increase the chances of the innovation becoming institutionalised at School X?'

'How do Schein's cultural dimensions and theories about transformational change in organisational culture apply to School X and the MTV innovation?'

'How can cultural theorists and conceptual frameworks help us to understand the complexity of introducing innovative ways of working to teachers and students, specifically using reflective practice, developing cultures of thinking and using visible thinking approaches to thinking and learning in School X?'

Belief systems, vision and leadership.

The interviews attempted to get teachers to articulate the tacit belief systems described by Fullan (2001) and Perkins (2003) and to reveal some of the implicit assumptions to which Trompenaars (1997 p 196) refers. The interviewees were asked questions about the eight steps towards psychological safety from Schein's theories, which I had tabulated, incorporating MTV components. The section of the interviews on school vision, underlying assumptions and personal vision allowed teachers to demonstrate that the school leaders have articulated the vision effectively, and that teachers feel supported in their own endeavours to reflect this vision and to work towards achieving their personal vision in the classroom. This correlates to Schein's 'compelling positive vision' (Step 1).

The responses were a positive sign of the health of the culture of School X, and the tacit belief systems that underlie it. The importance of good leadership was emphasised throughout the interviews, and it became clear that informal leadership and modelling and coaching were fundamental in getting teachers to use and understand MTV. One teacher, for example, had only ever used one routine, as a result of an informal leader personally coaching him/her in its use. Another teacher had acted as an informal leader and had planned and modelled MTV routines for and with others. Heads were seen as totally supportive in the

responses about whether or not interviewees felt supported and encouraged in their use of MTV, and in questions about opportunities for professional development.

Disequlibrium, positive and negative interactions and symbolic conduct.

Fullan's disequilibrium (2001) and Leat's (1999) description of the disruption of classroom equilibrium are evident in some of the respondents. One teacher is overwhelmed by 'constraints, time, other focuses in the school'. Others feel the pace of the school is too fast- 'It's a train-track school' - and another lacks opportunities to practice routines - 'New ones scare me'. There is a noticeable paucity of conversations (Perkins 2003) revealed in the lack of knowledge about what other school divisions are doing, and about MTV in teams and in group planning. Schein's informal training of family groups and teams (Step 4) and his practice fields and feedback (Step 5) are evidently lacking in School X, and one teacher moved grade levels in order to have better conversations about MTV, while another found that moving grade levels put him/her into a situation where no-one in his/her team, except s/he, knew anything about MTV, so s/he felt isolated. The study groups and some of the team planning and feedback that exists at School X can be classified as positive symbolic conduct (Perkins 2003), but the interviews revealed that there is not a great deal of involvement in these, except amongst the heavy users. Some teachers also found the Heads' appraisals regressive, intimidating or not conducive to learning.

Sustainability, multiple innovation and the work/life balance.

The need for innovations to be 'sustainable' (Hargreaves and Fink 2000 p 32), without compromising the development of others, was highlighted in several of the interviews when

teachers mentioned other focuses in the school, other learning institutes, the importance of keeping up with what is mandated and letting go of things like MTV which are viewed as voluntary. Teachers noted the difficulties of keeping abreast of all the initiatives in the school, and of having to prioritise and juggle the demands of their classroom instruction and new learning initiatives. One teacher stressed that "ESL in the Mainstream is huge for me" and several mentioned that "Differentiation" was a priority. This emphasises the importance of congruence between the professional development initiatives at School X (Hargreaves 2003 p 193). Are teachers aware of the connections between Differentiation, Learning through Technology, ESL in the Mainstream, Systems Thinking and MTV? Pragmatic, experienced teachers such as Teacher 1 may see the congruence between these 'competing' innovations, and try to integrate their practice. Some of the teachers interviewed felt that MTV was valuable and obviously valued and encouraged by the school, but saw it as something separate and something in which they were untrained and knew nothing or little about. It was as if they felt their focus was elsewhere, and could not accommodate MTV.

Dissent

Almost all of the teachers interviewed indicated some element of dissent, not from the values and mission of the school, but from other factors of the culture. One felt that MTV was not appropriate for HS, and one felt her appraisal by the Head had taught her that 'I need to change my markers more often'. One remarked that 'the pace of the school doesn't allow for that'. Other comments indicated that teachers valued and needed the choices offered by the school's professional development programme. What emerged from the interviews was that creative and effective teachers need choices. Schein's framework (Step 3) requires that group members of a culture are involved in their learning and have control of their learning.

The interviews showed that ten teachers feel substantially in control of their learning. This seems another good sign for the health of the culture, although it could be argued that because School X has an underlying implicit assumption that dissent is a good thing, individuals are free to decide for themselves how and when they implement change. It may imply that something as loose as MTV and perceived as voluntary, will never become completely embedded in the culture.

Disequilibrium, Unfreezing and Refreezing.

Leat's (1999) argument is that the disequilibrium felt by some teachers when trying to introduce new ways of working, such as MTV, leads them to default to old familiar patterns. The interviews showed that sometimes 'other stuff gets in the way' and some people feel 'like I'm always running behind'. This connects with Schein's need for practice fields, coaching, time, resources and valid feedback (Step 5). In School X, only the heavy user felt s/he has had enough support with MTV. S/he has been to Harvard, attended the MTV Institute and the Amsterdam conference and had conversations, observations and feedback from colleagues. The two teachers from School Y and School Z have also experienced these kinds of support. This coaching and modelling of MTV is an area still generally lacking in School X, although I am aware that it is beginning to happen in at least one division on a systematic basis at the time of writing (December 2008).

Similarly, team planning is not helping teachers to implement MTV, so Schein's informal training of relevant family groups and teams (Step 4) is not happening enough to enable teachers to build new norms and assumptions. One teacher is typical of those interviewed, feeling that s/he is 'isolated, as it feels I'm the only one with background knowledge of MTV'. All eleven interviewees felt 'not at all' or only to some extent helped by team

planning to incorporate MTV into their teaching. This is clearly partly or mainly to do with high turnover of teachers, as teachers often mentioned that people they knew who had used MTV had left the school. Where are the conversations needed for learning, if teachers do not have the shared vocabulary and understandings that we saw developing in the FEGs?

Positive role models (Schein's Step 6) are also lacking, and in the interviews it was clear that teachers had not observed the use of MTV routines in other contexts. Their perceptions were that a few people were using MTV, but they had great difficulty naming users, and were reluctant to guess who might be using MTV across the school. The interviews revealed that the only role models they had, apart from a few individuals, were vaguely described as being ES teachers who have a 'higher interest in pedagogy' and who do not have 'constraints like exams'. In using Schein's theoretical framework for psychological change, it is possible to feel that unfreezing and refreezing may not occur at School X, partly because many of the steps towards psychological safety are not being met. This lack of conversation between department members, and between teachers in different divisions, leads to the kind of squandering of both tacit and explicit knowledge to which Fullan refers (Fullan 2001). The knowledge and skill is there in a few people, but only they know about it! The archiving systems of Rubicon are often not fully used (dissent, again, but also a genuine lack of time) so when people leave, the knowledge of the MTV innovation, training, expertise and opportunities for 'knowledge sharing' (Fullan 2001) leave with them.

Recommendations

School X is on the right path to the institutionalisation of MTV, but this research leads me to make a number of recommendations to enable this sustainable innovation to continue. The

teachers at School X seem to be largely in support of the broad vision of the school and use many MTV strategies already. They feel MTV is valuable. My recommendations are:

1. MTV philosophies, routines and strategies should be articulated as complementing the other initiatives at the school. Congruence should be explored and specific links and overlaps found between MTV, Differentiation, Systems Thinking, Technology, Internationalism, and ESL in the Mainstream.

2. Use of MTV *routines* should be an expectation.

3. MTV routines should be included in the Rubicon unit planning, particularly for use by new teachers.

4. MTV routines should be modelled explicitly at faculty meetings.

5. Existing teachers should explain and model the MTV routines for new teachers who should then be expected to use them as part of their daily practice.

6. Study groups should be more inclusive, cross-divisional, and should take place during the school day, with release time. Professional Development days, team meetings and compulsory faculty meeting time should be used to examine student thinking and learning.

7. Heads' Appraisal and Learning Credit should have an MTV element embedded. Evidence of use of MTV should be expected as Heads appraise teachers.

8. Formal Coaching and Feedback should begin in all divisions, with pre-conferencing, observation and de-briefing in a supportive atmosphere as part of the normal teaching/learning cycle.

9. Informal, planned observations and dialogue involving teachers who have been MTV trained and those who have not should be frequent and expected in order to encourage dialogue and knowledge-sharing.

10. Dr. Ritchhart and his Harvard colleagues should be invited back at regular intervals to advise individuals and small groups in the use of MTV. This should be facilitated by Heads and Deputies who have direct knowledge of what is happening in classrooms and can target teachers' needs.

11. Interested teachers should visit other schools where MTV is being implemented, to observe good practice.

12. Teachers should be encouraged to do small-scale action research projects around MTV, and then to share the results with colleagues.

Conclusion and Reflection

This research gave me insight into the complexities of introducing change into an international school culture. Culture, even with strong vision and a fairly robust tacit belief system that endorses the philosophy of MTV, is resistant to change. This case study illustrates fragility, even in this seemingly sustainable innovation. The theorists are able to shed light on the problems of cultural reform, and to suggest positive solutions. Schein's theory of 'unfreezing' and 'refreezing' is useful to some extent, but my research casts doubt on whether in a turbulent international school environment, replete with multiple innovation and high teacher turnover, this is a realistic construct. Schein's framework of Psychological Safety is more useful because it focuses on the affective barriers to change. In my view, these affective constraints pervade the culture of School X, and Schein's eight steps provide

a helpful guide towards successful enculturation of individuals and groups into the new ways of working.

Schein's theory also applied to Schools Y and Z, although my interviews revealed that there seemed to be a higher uptake of MTV at those two schools, possibly because the eight steps were being addressed more comprehensively. It is unclear whether my research is generalisable to other schools, given the particular circumstances of my case study. Regardless of its generalisability, I feel that it will be valuable for developing MTV at my school. One unexpected outcome was that some thinking routines were clearly more used than others (see Chart 2). This raised questions about whether some routines are intrinsically easier to use than others, or whether their use directly correlates to the purpose and experience of users. Other questions raised by this research concern the role of the 'caring expert' and the leaders in the school. What can we learn from other schools, like Y and Z, about implementing MTV? How can our experiences inform others? What is my role, as MTV coordinator? Questions about the need for coaching, role modelling, feedback and micro communities of learning seem to indicate the direction that we should be taking in implementing MTV.

Cultures are multi-dimensional with inbuilt mechanisms of positive and negative symbolic conduct that influence the sub-cultures and which form ever shifting boundaries and loyalties. I have examined the Making Thinking Visible innovation at my international school, using the lenses of culture and change. I have looked carefully at this as a case study, and tried to identify gaps, weaknesses and strengths in the way a range of cultural needs are being acknowledged and met. I found some strengths, and weaknesses that could gradually be built upon so that they become strengths. The potential for sustainable change is there, and

with continued economic, political, ideological and technical support, the psychological barriers to change in the school culture can be addressed and overcome. Schein has shown us what the steps towards psychological safety are, and how we can retain our identity as a culture and as individuals within the culture and become motivated to continue the process of unlearning and relearning.

References

Azmi, F T (2008) Mapping the learn-unlearn-relearn model. *European Business Review*, 20 (3), 240-259.

Baumfield and Oberski (1998) What do teachers think about thinking skills? *Quality Assurance in Education* 6:1, 44-51.

Bell, J (1987) Doing Your Research Project Buckingham O.U.P.

Bruce, M A (2007) Managing Educational Innovation Assignment (Bath University) Unpublished.

Cohen, L, Manion, L and Morrison, K (2000) Research Methods in Education. London. Routledge Falmer

Denscombe, M (2002) Ground Rules for Good Research. Buckingham. O.U.P.

Drever, E (1995) Using Semi-Structured Interviews in Small-Scale Research. University of Glasgow. The SCRE Centre.

Fullan, M G (1991) The New Meaning of Educational Change. London. Cassel Educational Limited.

Fullan, M (2001) Leading in a Culture of Change. San Fransisco. Jossey-Bass.

Fullan and Hargreaves (1991) What's Worth Fighting For in Your School? New York Teachers College Press.

Garet, M S, Porter, A C, Desimone, L, Birman, B F, Yoon, K S (2001) What Makes Professional Development Effective? *American Educational Research Journal*, 38:4, 915-945

Ghaith, G and Yaghi, H (1997) Relationships among Experience, Teacher Efficacy, and Attitudes Toward the Implementation of Instructional Innovation *Teaching and Teacher Education* 13:4 451-458

Glatter, R, Castle, F, Cooper D, Evans, J and Woods, P A (2005) What's New? Identifying Innovation Aising from School Collaboration Initiatives *Educational Management Administration and Leadership* 33:4 381-399

Hargreaves, A (2002) Sustainability of Educational Change: The Role of Social Geographies *Journal of Educational Change* 3 189-214

Hargreaves, A and Fink, D (2000) Three Dimensions of Reform *Educational Leadership* 57: 7 30-34

Hargreaves, D H and Hopkins, D (1994) Development Planning for School Improvement London. Cassell.

Harland, J and Kinder, K (1997) Teachers' Continuing Professional Development: Framing a Model of Outcomes *Journal of In-Service Education* 23: 1 71-84

Hofstede, G (2003) Cultures and Organisations: Intercultural Cooperation and Its Importance for Survival. Software of the Mind. London. Profile Books.

House, E R (1981) Three Perspectives on Innovation, in Lehming, R, Kane, M (eds) Improving Schools 17-41 London. Sage Publications

House, E R and McQuillan, P J (1998) Three Perspectives on School Reform, *International Handbook of Educational Change* 1:5 198-213

http://www.pz.harvard.edu/vt Making Thinking Visible Website accessed 2nd July 2008

Langer, E J (1989) Mindfulness Cambridge, MA. Da Capo Press

Leat, D (1999) Rolling the Stone Uphill: teacher development and the implementation of Thinking Skills programmes *Oxford Review of Education* 25: 3 387-403

Leinhardt, G, Weidman, C, Hammond, K M (1987) Introduction and Integration of Classroom Routines by Expert Teachers *Curriculum Inquiry* 17: 2 135-176

Levine, D U (1994) Creating Effective Schools through Site-Level Staff Development, Planning and Improvement of Organisational Culture. In **Hargreaves, D H and Hopkins, D** (1994) Development Planning for School Improvement London. Cassell.

Lewin, K (1947) Frontiers in Group Dynamics *Human Relations* 1 5-41

Molinsky, A L (1999) Sanding Down the Edges: Paradoxical Impediments to Organisational Change *The Journal of Applied Behavioral Science* 35: 8 8-24

Owston, R (2007) Contextual Factors that Sustain Innovative Pedagogical Practice using Technology: an International Study *Journal of Educational Change* 8 61-77

Perkins, D (2003) King Arthur's Round Table. How Collaborative Conversations Create Smart Organisations New Jersey. John Wiley and Sons

Perkins, D, Jay, E, Tishman, S (1993) Introduction: New Conceptions of Thinking *Educational Psychologist* 28: 1 1-5

Perkins, D, Tishman, S, Ritchhart, R, Donis, K, Andrade, A (2000) Intelligence in the Wild: A dispositional View of Intellectual Traits *Educational Psychology Review* 12: 3 269-293

Ritchhart, R (2002) Intellectual Character.What it is, Why it matters, and How to Get it. San Francisco. Jossey-Bass

Ritchhart, R, Palmer, P, Church, M, Tishman, S (2006) Thinking Routines: Establishing Patterns of Thinking in the Classroom. Paper prepared for the AERA Conference April 2006

Robson, C (1993) Real World Research Oxford. Blackwell

Schein, E H (2004) Organizational Culture and Leadership San Francisco. Jossey-Bass

Schon, D A (1987) Educating the Reflective Practitioner San Francisco. Jossey-Bass

Senge, P M (2006) The Fifth Discipline: the Art and Practice of the Learning Organization London. Random House Business

Sinclair, J McH and Coulthard, R M (1974) Towards an Analysis of Discourse: the English Used by Teachers and Pupils London. Oxford University Press

Stoll, L and Louis, K S (2007) Professional Learning Communities. Divergence, Depth and Dilemmas Maidenhead. Open University Press

Tishman, S and Palmer, P (2005) Visible Thinking *Leadership Compass* July 2005

Trompenaars, F and Hampden-Turner, C (1997) Riding the Waves of Culture. Understanding Cultural Diversity in Business London. Nicholas Brealey Publishing

Van Kogh, G, Ichijo, K and Nonaka, I (2000) Enabling Knowledge Creation. How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation New York. Oxford University Press

Wallace, M (1994) Towards a Contingency Approach to Development Planning in Schools. In **Hargreaves, D H and Hopkins** (Eds) Development Planning for School Improvement London. Cassell

Wallace, M and McMahon, A (1994) Planning for Change in Turbulent Times London. Cassell

Wildman, T M, Hable, M P, Preston, M M and Magliaro, S G (2000) Faculty Study Groups: Solving "Good Problems" Through Study, Reflection and Collaboration *Innovative Higher Education* 24: 4

Wilson, D, Perkins, D, Bonnet, D, Miani, C and Unger, C (2005) Learning at Work. Research Lessons on Leading Learning in the Workplace Cambridge MA. Harvard Graduate School of Education

Appendix I MTV Coordinator Job Description

THE INTERNATIONAL SCHOOL OF X

Job Description

Harvard's Project Zero – Making Thinking Visible Coordinator

Introduction

The International School of X is a dynamic learning organization committed to developing independent learners and international citizens. The school is a vibrant community in which students, teachers, staff and parents work together towards the achievement of our mission and goals.

The school is driven by a commitment not only to learning, but to the continuous improvement of learning, for students, faculty and other stakeholders. In the broadest sense, our approaches to learning are captured in our curriculum: planned, taught and learned. As our curriculum has developed, and become more clearly defined, so has our school. Our systems and structures are now closely aligned with our learning mission, bringing coherence to our work.

These include the systems and structures for leadership, which are now less hierarchical and more collaborative. We are creating a school culture in which there are many leaders, and in which the model of teacher as leader is central to our success. The Harvard's Project Zero – Making Thinking Visible Coordinator exemplifies this model.

General Responsibilities

- The Coordinator reports to the Head of the School and is a member of the School's Curriculum Support Team. Primarily, the Coordinator is a learning leader and provider of professional development support, with responsibility for facilitating both the development of ISX as a culture of

thinking and the implementation of visible thinking routines and ideals in curriculum and instruction.

Specific Responsibilities

In terms of ***leadership***, the Coordinator is responsible for:

- Developing a deep, enduring understanding of Making Thinking Visible, and how it correlates with the ISX curriculum and instruction
- Being an advocate for Making Thinking Visible practices
- Being a part of developments in the ISX curriculum and instruction based on Making Thinking Visible
- Keeping abreast of research and other developments in related approaches to learning from Project Zero
- Leading Making Thinking Visible/Project Zero events
- Collaborating with curriculum coordinators cross-divisionally for ongoing implementation of Visible Thinking practices
- Supporting the professional development of faculty cross-divisionally in terms of creating a culture of thinking
- Understanding and supporting the process of changing to new ways of thinking and teaching

In terms of ***management***, the Coordinator is responsible for ensuring effective:

- Preparation of materials and information for Visible Thinking events
- Communication with Harvard, The School Head, the members of the Curriculum Support Team, and ISX faculty in terms of making thinking visible
- Implementation of other agreed responsibilities of Coordinator

Qualifications

The Coordinator:

- Has a demonstrated capacity for leadership.
- Embodies the school's core dispositions of respect, responsibility, reflection.
- Wishes to work in a changing, multicultural environment.
- Ensures open and effective communication.
- Works proactively and with initiative and innovation.

- Provides an example to others in terms of commitment, empowerment and drive.
- Is a system thinker and problem solver.
- Is a collaborative team-player.
- Is literate in IT skills.
- Is flexible and adaptable.
- Is able to motivate colleagues.
- Is an efficient organizer.
- Is committed to her or his own learning.
- Has sufficient experience to speak with confidence and authority on visible thinking and the ISX curriculum.
- Has a demonstrated interest in curriculum.
- Has a demonstrated interest in professional development.

We offer:

- The opportunity to work in a dynamic, challenging, motivating and multicultural learning environment

- The opportunity to add value to a successful, innovative organization

- Extended professional development focussed on the necessary understandings, knowledge and skills for leadership for learning

- An annual monetary stipend

- A two-year contract, renewable following re-application and dependant upon effective performance

Recruitment Policy

The International School of X is an equal opportunities employer and does not discriminate on the basis of race, color, gender, sexual orientation, national origin, religion or marital status.

Appendix II School X's Mission Statement

ISX Mission and Goals

The ISX Mission

Everyone Included, Everyone Challenged, Everyone Successful

The International School of X (ISX) offers a challenging, inclusive international education that gives every student multiple opportunities for success within and beyond our school. This education is provided by teams of outstanding, well-resourced teachers, working in world-class learning environments in a safe, secure campus.

The ISX experience is shaped by a spirit of community, characterized by students, parents, faculty and staff working together to achieve our goal of developing independent learners and international citizens.

Our Enduring Goals

ISX offers a challenging, coherent programme of academics, arts, sports and service, Nursery through Grade 12/13, through which:

Everyone Included
All learners' needs are supported, their perspectives sought and respected and their qualities valued and nurtured.

Everyone Challenged
All learners make annual learning progress through the achievement of specific, appropriate learning targets.

Everyone Successful
All learners have multiple opportunities to succeed and to secure their best future.

Independent Learner
All learners are equipped for success in a challenging world. They are confident leaders, skilled communicators, constructive team players and efficient problem solvers. They have a critical self-awareness and adapt successfully to changing situations.

International Citizen
All learners develop a personal code of ethics, respect for diversity of opinion and culture, an empathy for others, an age-appropriate understanding of global issues and a disposition towards positive community participation.

Appendix III MYST Reflection Protocol

ME • YOU • SPACE • TIME

A TOOL FOR REFLECTING ON THE VISIBILITY OF THINKING IN CLASSROOMS

M	Ask yourself: How am I modeling my own thinking? How does my use of language highlight my thinking and that of students? *I have used words like ; presume assume, I can see it for me, I wonder..* *How can you think from this point of view?* *How would XX think?*
Y	What are you noticing about your students' language, questions, attitudes *They seem to see things in a context. It is not black or white, it depends on circumstances. They do not only see the matter from their own point of view. It depends on the parent´s view, their friend´s view.*
S	In what ways are you using the physical space to record, process, and interact with the group's thinking? *We were working with Truth around the statement :" Video games make children violent." I summarized while I was documenting on the white board what was said during the lesson. In the end we looked through the documentation together. How did the process go? What did we see? Something that did not make sense? Something that needs to be changed?* *I wrote it on a big paper and put it on the wall. We saw connections like : doubts around the ages of the children. What types of videogames? How do you judge the proof? ….* .
T	How are you allocating time differently to create opportunities

for thinking? What are the effects of these changes in the use of time?

I have given the students time to think before they answer. They have got time to listen to each other. We looked at the documentation at another occasion.
How had we been thinking in the meantime?

What implications do your reflections have for your future teaching?

Appendix IV LAST (LOOKING AT STUDENTS THINKING) Protocol

LOOKING AT STUDENTS' THINKING (LAST) PROTOCOL

I. Getting started (5 minutes)

• The group chooses a facilitator who will make sure the group stays focused on the particular issue addressed in each step.

• The group also chooses a documenter who will capture the groups' thinking and process. This can be done on chart paper, by taking notes, or through video.

• The presenting teacher or teachers briefly explain the task and review the types of thinking the activity was meant to reveal. For example, in the Think-Puzzle-Explore routine students are bringing forth prior knowledge and possible misconceptions, displaying curiosity and the ability to make connections through questions, and exhibiting what they know about conducting and carrying out inquiry.

• The presenting teachers pass out the collection of selected work or show a short video clip from a classroom episode. The participants observe or read the work in silence, perhaps making brief notes about aspects of it that they particularly notice.

II. Describing the work (5 minutes)

• The facilitator asks the group, "What do you see?"

• Group members respond without making interpretations or evaluations about the quality of the work, or statements of personal preference.

• If evaluations or interpretations emerge, the facilitator asks the person to describe the evidence on which those comments are based.

III. Speculating about students' thinking (10 minutes)

• Facilitator asks the group, "Where in the work do you see insights into students' thinking? What does this reveal about how students are collectively and individually making sense of ideas, putting information together, organizing thoughts, reasoning, and so on?

IV. Asking questions about the work (10 minutes)

• The facilitator asks the group, "What questions does this work raise for you?"

• Group members state any questions they have about the work, the child, the assignment, the circumstances under which the work was carried out, and so on.

• Individuals may want to make notes about these questions; however it is not necessary to respond to the questions at this time. The focus should remain on generating questions and identifying issues.

V. Discussing implications for teaching and learning (10 minutes)

• The facilitator invites all participants, including the presenting teacher, to share any thoughts they have about their own teaching, students' learning and thinking or ways to support these particular students in future instruction. A possible question to ask is, "Where might this work go next to build on and extend students' thinking?"

VII. Reflecting on the LAST Protocol (5 minutes)

• The group reflects together on their experiences of or reactions to the protocol as a whole or to particular parts of it. To the extent it is appropriate, the group may look over the documentation that was done throughout the protocol or the documenter may present highlights to the group.

• The group may make decisions about and recommendations for their next meeting. The group should determine who will present at the next session.
• The documentation of the group process should remain available to members of the group for
review and reflection.

VIII. Thanking the presenting teacher

• The session concludes with acknowledgment of and thanks to the presenting teacher.

Appendix V MTV Study Group Documentation from 10th May 2007

Describing the work-What do you see?

Empty boxes in 'I wonder'
Columns
One person has fit boxes round the writing in different shapes
Lists
Correct spelling.
Structure, organized layout
Numbers and words
Full pages-a lot of text in most of the boxes
Graphic symbols-eye-globe-light bulb-question mark
Repetition- I see, Ithink, I wonder in notes
Note in left column-answer in a new column, like a margin
Different styles and organisation of writing-sizes
Some on lines, some not
Same features picked out by more than one child -trolley buses, e.t.c.

Speculating about students'thinking-insights into their thinking

ESL children seem to be less organized…because Heidi told us which kids were ESL
Last one has more incorrect spellings and is less organized-this is a beginner ESL
Planning and organisation is needed as a type of thinking
The word English numbers is used
Thinking in 'I think' column is to do with *identifying* each city, so the thinking is shallow
'Wonders' are very varied…some are interesting, some mundane
Some personal wonderings

Indicator..what does this mean…it might refer to a one way sign?
Helicopter - taking perspective, only mentioned by one person.
If they had to predict, using what they saw, they are drawing conclusions based on their interpretations
'See' column very detailed for one child—same child timid about making a 'Think,' rather than an ' I know'…'it might be'….language is more tentative
'Wonderings' are out of the context of the city – e.g. "When was the picture taken?"
'Thinks' were almost all justified…''because''…is used a lot

Asking Questions about the Work.

Did they share out loud?
Did they talk to each other?
Were the children asked to identify each city?
Was this an intro to the Unit?
How long did it take?
I wonder how much of their own experience they've made a connection with----'jobs', 'not many cars'…
If they recognize it, does it mean more to them?
How do past experiences influence what you see and don't see?
How does this relate to us being an International School?
Did they all know it was Chinese writing?

Question about the purpose of a building ? What's their prior knowledge or their reading or their history?
What would our own personal questions be about these photos?
Your interpratations would be applied to the picture according to what you know?
Do these images bring up feeling? Mystery in the first picture…brings up cold.
Does it change the way you think about a picture, whether it's in black or white?
Is the New York picture very old or very new?
Expectations….emotions…are they affecting us?
Who decided what images to photograph?
Do the iconic structures give too many easy clues?
Do we always go with our own associations?
Where do misinterpretations come?
I'm associating with Rico camera…
You could be anywhere

Implications for teaching and learning.

What do the cities have in common?
Ask them to look at the pictures for evidence of success or challenge
Go back to the unknown one, and study it again…without having clues…more open ended
Next steps…progression in Unit…how does it fit?
Will the children revisit these photos later in the unit?
If only 4 cities—focussing on only one from each continent might bring more depth
Maps would be interesting…different cities
Cities that have changed through time, using older and newer maps

Compare one city with a city they have come from
Why were these slides chosen?
Is there enough diversity in these images?
A poor city, say, in Africa?
Industrial city?
More people in pictures, rather than buildings and iconic monuments and landmarks, studying dress might have been interesting, looking at diff landscapes and climate?
Could student give a picture of their own city and look carefully and share with others in the class?
Why is a city a city? Does it have something to do with liberty? Is it because it has a cathedral? Is it because it stocks food and goods?

Presenting Teacher responds

Thanks to Heidi for the last MTV presentation this school year.
Facilitated by Renaut.
Documented by Annie

Appendix VI Looking at Learning Study Group Protocol

Looking At Learning

Presenting the Work (5 minutes)
- Presenter shares the *context*, *goals* and *requirements* of the student work.
- Group asks short clarifying questions to help to understand and read the work, if necessary.

Reading the Work (5-10 minutes)
- Read the work silently, taking notes for later comment, categorizing notes to fit in with stages of the protocol.

Describing the Work (5 minutes)
- What do you see? Raise one another's awareness of the features of the work.
- Avoid interpretations and just point out what can be seen.

Speculating about Student Learning (10 minutes)
- What do you think the student is working on?
- What aspects of the work provide insights into this?

Ask Questions (10 minutes)
- Using the lens of differentiation, technology, systems thinking, MTV and international-mindedness, ask questions.
- Frame questions to get at broad issues as well as specifics.
- Ask the question behind the question. Rather than "How long did this take?" ask, "This raises questions for me about the time needed to do this kind of work."

Discuss Implications for Teaching and Learning (5-10 minutes)
- Use the lenses of differentiation, technology, systems thinking, MTV and international-mindedness to ask, "Where might this work go next to further extend and build on these aspects of learning?"

Presenting Teacher Responds (5 minutes)
- What have you as presenting teacher gained from listening to the discussion? Highlight for the group what you found interesting in the discussion.
- Respond to those questions that you feel need addressing by you. Explain briefly where you think you might go now with the work.

Reflecting on the Protocol (5 minutes)
- How did the process go and feel?
- Make suggestions for next time.

NOTE The presenting teacher *does not respond* at this point.

based on protocols developed by Project Zero, Harvard University

Notes For using the Looking at Learning Protocol at ISX

The focus is on student and teacher learning. We encourage the presenting teacher to
bring something from:
- a struggling student
- an average student

- an ESL student
- a high-achieving student.

The work need not be polished or published in final form…drafts, unedited pieces, work in progress, videos, photos and work that you are not sure about, are all welcome.

The goals of the lesson and the unit should be included (verbally is fine) as part of the 5 minute presentation, to put the work in a context. Dates should be included, particularly if the work is from only one student, showing a development over time.

The facilitator and documenter roles can be rotated so that the group has a democratic feel, with different styles of facilitating and documenting, using the same protocol to keep the discussion focused.

In order to respect each other and the students, we need to make sure that work is made anonymous if possible. The specific conversations and discussion points remain confidential amongst the group of people meeting that day, although the discussion is documented and shared via Blackboard with no names attached. The group encourages risk- taking and frank, focused discussion about sometimes difficult issues. Exchange of sometimes strongly held views is encouraged, with the emphasis on mutual respect.

based on protocols developed by Project Zero, Harvard University

Appendix VII Example of an MTV Thinking Routine

SEE / THINK / WONDER

A routine for exploring works of art and other interesting things

Purpose: What kind of thinking does this routine encourage?

This routine encourages students to make careful observations and thoughtful interpretations. It helps stimulate curiosity and sets the stage for inquiry.

Application: When and where can it be used?

Use this routine when you want students to think carefully about why something looks the way it does or is the way it is. Use the routine at the beginning of a new unit to motivate student interest or try it with an object that connects to a topic during the unit of study. Consider using the routine with an interesting object near the end of a unit to encourage students to further apply their new knowledge and ideas.

Launch: What are some tips for starting and using this routine?

Ask students to make an observation about an object – it could be an artwork, image, artifact or topic – and follow up with what they think might be going on or what they think this observation might be. Encourage students to back up their interpretation with reasons. Ask students to think about what this makes them wonder about the object or topic.

The routine works best when a student responds by using the three stems together at the same time, i.e., "*I see…, I think…, I wonder ….* " However, you may find that students begin by using one stem at a time, and that you need to scaffold each response with a follow up question for the next stem.

The routine works well in a group discussion but in some cases you may want to ask students to try the routine individually on paper or in their heads before sharing out as a class. Student responses to the routine can be written down and recorded so that a class chart of observations, interpretations and wonderings are listed for all to see and return to during the course of study.

- What do you see?
- What do you think about that?
- What does it make you wonder?

Appendix VIII Draft Professional Learning Credits Programme Document.

'

The Professional Learning Credits Programme

DRAFT February 5th 2008.

Contents

Preface

The programme of Professional Learning Credits evolved at ISX after years of sustained work on developing agreed best practice for "international teaching" of a diverse student body.

The credit system itself is simply one element in a Professional Learning Cycle that begins with an understanding of the students themselves, then reaffirms our core values, and moves on to describe the practices that reflect those values, then describes our systems of professional appraisal and development in support of those practices. Perhaps the most powerful of our approaches to professional development, because they are contextualized, are our Professional Learning Institutes, comprising four-day "training" sessions followed by a year of structured reflective practice.

The Professional Learning Credits were developed in recognition of the increased knowledge and skills that a teacher acquires through these experiences, given that we expect evidence of improved student and teacher learning before awarding credits.

In practice, we find that our teachers tend to engage in these professional learning experiences without extrinsic motivation, but we find it fair and reasonable to recognize and reward professional progress in the ways described in this document.

The Professional Learning Credit programme was initiated and developed by a team of teachers working closely with the ISX Director. Recognition is due to:

Deborah Heglund
Michele Wren
Meg Porter
Kevin Healey
Angela Purcell
Miles Madison
Chris Redmond

This programme has great potential to recognize professional progress in ways that are mission-driven and learning focused. It will be reviewed periodically to ensure that it continues to serve its intended purpose and to modify and improve it.

Kind Regards,
Director November 2007

PURPOSES

The purposes of the Professional Learning Credits Programme are to:

- Enhance learning: student learning, teacher learning, and school learning.
- Recognize and reward professional progress

PRINCIPLES

The Professional Learning Credits Programme will be:

- Set in the context of agreed best practice as defined by our Professional Learning Programme.
- Evidence-based; incorporating data showing substantive improvements in student learning, teacher learning and school learning.
- Both reflective and collaborative in nature.
- Fair, equitable and transparent.
- Facilitated by the school to a reasonable degree while still requiring a substantive amount of "teacher time".
- Reasonable but rigorous.

POLICIES

The programme is designed to be "reasonable but rigorous". Teachers applying for Professional Learning Credits will engage in the following 3-year programme:

Year 1

- Attend a 4-day Professional Learning Institute
- Attend the 1-day mid-year follow up.
- And take:

  either

  i. The lab classroom option

  or

  ii. The looking@learning option

  or

  iii. The learning partner option

  and

  iv. Make a presentation on learning at one faculty meeting during the year.

Year 2

Same as Year 1, but selecting a different reflection option from the list above.

Year 3

Complete an Action Research Project

and

Develop this project into a Professional Portfolio, and present this to a review panel that will include other colleagues engaged in the Programme.

Notes:
Teachers may repeat a 4-day Institute for consecutive years, building deeper understanding.

PRACTICES

I. The Lab Classroom Option

Practicalities:

- Groups of **3-5** teachers from the same Institute will agree to work together. It could be cross-divisional, but will most likely be grouped by division.
- They will choose from one of the following activities:
    1. **The SAME CLASSROOM MODEL:** Choose **ONE** classroom that will be the "Laboratory". That one classroom will then be the lab for the whole year. The students/classroom remains the same while the different teachers teach lessons to that group of students. This method allows teachers to observe the effects of using different strategies on the same group of students. The focus is on student reaction/understanding. The **constant** is the students.
    2. **The SAME STRATEGY/METHOD MODEL:** Choose **ONE** strategy/teaching method and each teacher will use that strategy or method in **THEIR OWN** class/subject area. The "Laboratory classroom" changes. This model allows teachers to observe the effects of using a particular strategy in different subjects/grade levels and with different students. The focus is on teacher practice. The **constant** is the strategy/teaching method.
- They will participate in a minimum of six observations per year.
- Each observation will consist of the following:
    - A 30 minute Pre-Conference with all parties following a specific protocol (To be done either before school or, if possible, directly before the lesson)
    - A 45-60 minute observed lesson in the Lab Classroom
    - A 30 minute Post-Conference discussion with all parties following a specific protocol (To be done after school or, if possible, directly after the lesson)
- Each Lab Classroom session will have a facilitator and a recorder who is NOT the person teaching the lesson that day.
- Using a protocol, the teachers will trace student learning/achievement OR teacher learning/development depending on the model chosen.

Protocol for Lab Classroom Pre-Conference

5 min.	Settle in and pick facilitator, timekeeper and recorder
5 min.	Review protocol and considerations for classroom behavior
10 min.	Lab teacher introduces lesson, learning objectives, reasons for chosen lesson, etc.*
10 min.	Observing teachers ask clarifying questions, complete the basics in their observation tool, choose focus, etc. (what do they want to watch for, etc)

Protocol for Lab Classroom Post-Conference

5 min.	Lab classroom teacher reflects on successes and challenges of the lesson as they relate to main objective/learning intention*
10 min.	Observing teachers ask clarifying/probing questions of the lab teacher.
10 min.	Everyone works together to brainstorm next steps, new ideas based on student performance, and schedule next session.*
5 min.	Positives/challenges to process

* these questions could be reflective of/based on the Professional Learning document in terms of format, overall ideas, etc.

Focusing Observations During Lab Classrooms

When participating in a lab classroom visitation, please keep the following guidelines in mind, in order to protect the community of learners in the classroom:

- Silence is golden- honor the existing tone, structure and community
- Come with a positive attitude- we are not here to critique the teacher, but to learn from her and each other
- It is not our turn to teach- remember that you are a visitor in the classroom
- Take notes- use the Lab Classroom observation form to record dialogue, generate questions, etc.
- Change your focus- from whole class to small group, follow one particular child, track transitions, note classroom environment, focus on the schedule, identify different types of conferences occurring, watch for assessments, listen for teacher modeling their thinking, find evidence of the gradual release of responsibility, etc.
- Take responsibility of bringing back your completed observation form to the debriefing session- it is valuable for discussion
- Generate further questions, connections and extensions for the next lab classroom lesson
- Enjoy this opportunity to learn from colleagues as you observe how research can inform instruction

Tips for the Lab Classroom Teacher

1. **Keep in touch with your team of other teachers before, during and after the observations.** Keep in mind that while the lab is going on, the chosen facilitator is there to help you. If something is not going well, he/she can take care of it, but only if you tell him/her. Afterward, you will be asking for feedback from the participants.

2. **Share your professional reading with participants.** Sharing your professional readings, books, journals is not only a great model for the participants but also may give people new titles to look into.

3. **Rely on the structures you already use to carry your students through the day.** Ask yourself, "What are the structures that my class is already comfortable with?" Keep to the good old stuff. Having observers in the room will "upset the apple cart" a bit, but if you throw in a new structure or change a consistent schedule, it may cause an even greater disruption. Remember, the observers are in your room to see what you do on a normal day. Don't try to plan a huge show for them, instead, go with what you would have normally been doing that day.

4. **Prepare your students for the lab days.** Let them know who is coming and why they are in your room. Let them know that it might be a little uncomfortable at first, when a large group of teachers are all gathered around during their lessons, scribbling notes as fast as they can. Let them know that these teachers are all here to learn from them. Today, they will not only be students, but teachers too.

5. **Expect the unexpected.** The day is planned and everything is in place. You feel ready for anything. Anything, that is, except the unannounced chili cook off. Yep, the cafeteria people show up in your room with two pots of steaming chili, wanting to know which type the students like best. Life happens! All the lab participants will understand completely (with sympathetic smiles) when during the lesson of their lives, your kids stop and taste chili. Everyone who has taught knows that things happen that are out of their control. Don't worry, you can all laugh about it at the debriefing session. (And that is a true story, by the way. One of many!)

6. **Relax! The day will go well.** Having observers in your room is an exciting learning experience. All of the participating lab classroom teachers will have the opportunity to observe and be observed. It is a luxury to have extra eyes in your classroom, helping you see your students and practice in a new and different way.

Lab Classroom Observation Sheet

Teacher's Name:
Observer's Name:

	I SAW	I HEARD	I WONDERED
THE LEARNERS			
THE TEACHER			
THE LEARNING ENVIRONMENT			
THE PROFESSIONAL LEARNING COMMUNITY			

Date	Observer's Signature

Lesson Planning Template for Lab Classroom
Professional Learning Cycle

Lesson Focus: (Write In)

Reading:

Word Work:

Writing & Language:

Other:

_____

Teacher: Target Student Group: (if applicable)

Date: Data Source:

Skill or strategy needed based on Data Source:

Teacher's Instructional strategy, practice or approach:

Time:	**Introducing the Lesson (Whole Class)**
How will you introduce this lesson? What **connections** can you help students make to previous learning or to their own background knowledge? How will you communicate the **purpose** of this lesson to your students?	
How will you **model** what you want students to learn?	
How will you assess whether or not **all students** are able to access the curriculum taught during this lesson?	
Time:	**During the Lesson**

Describe 5 steps you will take to teach this lesson. What opportunities will you create to **actively involve** the students in the learning process? **(Shared, Interactive or Guided Instruction)**	
What materials will you need? Will the students need?	
Which **'on-the-go' informal assessments** will you use during your target group instruction to assess how students performed during this lesson?	
Time:	**Independent Work**
What **independent activities** will the students be engaged in? How will you ensure that they remain on task? What **classroom management routines** do you need to reinforce, practice or review?	
How will you flexible group your students so that they are provided **universal access** to the curriculum?	
Time:	**Wrap-Up**
How will you bring this lesson to a close? **What strategies/skills will you review with the students?**	

How will you help your students **apply what was taught** during this lesson to their independent reading and writing work?	
Is there any aspect of your teaching that you would like me to focus on during the observation? Is there any particular student you would like me to observe?	

II. Looking@Learning – Credit Requirements

(Draft)

Background

Looking at Learning is a study group which meets weekly, grouped in three six-week 'terms'.
Members are drawn from all divisions and may include non-teaching staff and administrators; involvement ranges from occasional observers to regular attendance.
At meetings, the group discusses an example of student work through the lenses of the learning institutes, following a protocol which helps ensure a purposeful, non-threatening atmosphere. Discussions are facilitated to maintain a collegial and structured approach, and key points are recorded for further online discussion.

Requirements

Candidates wishing to use participation in Looking at Learning as evidence of ongoing professional growth following an ISX Learning Institute would be asked to:

- maintain a record to show sustained application of ideas learned during the Learning Institute covering the whole school year – ideas & activities used, when, which content area/grade level etc.; this should show a serious, consistent application of techniques directly relevant to the institute over the whole school year
- attend all six meetings in a chosen term – attendance beyond this is encouraged;
- take an active role within the group – this could include recording, facilitating, making significant contributions to discussions or participating in online discussion following the group meetings; evidence could be provided in the form of meeting notes, photographs or online contributions
- present work from their own classroom at one of the meetings – offers a focus through which the longer-term professional learning can be shared;

- prepare a summary of the work shared, including:
  - outline of the activity & context – as used for the presentation
  - copies of the material shared – possibly via links to BlackBoard/websites if appropriate
  - what the presenter gained from the discussion of work from their classroom – ideas, next steps
  - a reflection on the whole process – broader implications for future teaching and learning, wider impact of the institute on teacher's learning, proposed sharing of good practice

The professional learning must be grounded in one of the ISX Learning Institutes. Faculty members should provide evidence to show a sustained, consistent and reflective use of the ideas and present evidence for an innovative approach to their classrooms in the context of the institute.

III. Learning Partners - Extending Learning from ISX Institutes

1. In each school year following attendance at an ISX Institute, a teacher who is seeking recognition for professional learning, would select a colleague to act as a learning partner. The partners would probably both have taken the same Institute, but it is possible they could have taken different institutes. The partners need not necessarily be teaching in the same division.

2. Learning Partners would meet at least six times during the school year at regular intervals to be decided by the partners.

3. In-school time may be provided for these meetings (possibly Mondays once a month when no faculty meetings are scheduled)

3. Learning Partners would do most or all of the following:

- Share ideas and classroom experiences related to practical application of learning from an institute.
- Discuss successes and/or challenges in implementation of strategies gleaned from the institute.
- Study and analyze progress of one or two specific students in each teacher's class to track how using strategies from an institute can impact learning.
- Observe each other and provide feedback on evidence of student learning through use of a particular strategy related to an institute.
- Carry out research on ideas and extensions of learning from the institute and share learning from this research with partner and colleagues.
- Present and share ideas with colleagues in a faculty meeting or designated professional development setting* (possibly at the half-way point in the year –Dec/Jan or in May/June)
- Additional ideas to be proposed by the learning partners

4. Documentation of the discussions of Learning Partners would be made using Learning Partner Logs. These six Learning Partner Logs, as well as supporting documents related to analysis of student progress, observations, and research, would be submitted to the Head of Division(s) in partial completion of the year-long learning partnership.

5. *Before sharing their learning at a designated faculty professional development opportunity, the partners would outline the general content of their presentation to the Head of the division and state the desired outcome of sharing their learning with the faculty (e.g. , sharing a good strategy and how it

can be implemented in a classroom, sharing a problem with implementing a strategy and asking the audience for help/insights to make it more successful, etc.)

IV. Protocol for Professional Learning Institute Presentations Years 1,2, and 3

The PLIP presentations are a yearly opportunity for a teacher to review, synthesize, and share, in an informal setting, her/his learning and growth in professional practice based on the subject of the institute s/he participated in.

Years 1 and 2:

Time: 15 -20 mins.
Audience: colleagues in the teacher's division
Possible Materials: Hard copy, student-made materials, Powerpoint, digital photos, digital recordings, video and webcam footage, etc.

A teacher would include most of the following in her/his presentation to fellow faculty members:

a. The subject of the Institute
b. Description of one of the activities undertaken during the academic year (Looking at Learning, Partners in Practice, Lab Classroom) and two valuable understandings the teacher gleaned from the activity.
c. Pieces of evidence that best illustrate application of learning when implemented in the classroom
d. Key insights by both students and the teacher into how the knowledge/instructional goals from the institute enhanced student understand/learning.
e. Reflection –(any or all of these)

- questions the teacher wants to pursue further,
- what the teacher has learned about her/himself as a practitioner using the particular approach learned in the institute,
- challenges the teacher has faced in implementing the approach of the institute and possible avenues to resolve them.

In year 3, a Professional **Portfolio** would have been compiled. The teacher would make a make a presentation to submit the portfolio, which would include the following:

Time: 20-25 mins.
Audience: Review panel which includes other colleagues who have participated in Learning Credits from Professional Learning Institutes.
Possible Materials: Portfolio could include hard copy, student-made materials, PowerPoint, digital photos, digital recordings, video and webcam footage, etc.

a. The subject of the Institute
b. The portfolio itself and overview of its contents
    - documentation of work done in years 1 and 2 (Lab classrooms, Looking @Learning or Learning Partners)
c. The nature/subject of the action research topic,
    - the approach taken to gather data,
    - results of analysis of the data, impact on learning for students, and
    - impact on professional practice for the teacher.
d. Key insights from the three years of application and study of the approaches to teaching based on the institutes.

YEAR THREE ACTION RESEARCH

Introduction

Year Three of the Professional Learning Credits Programme (PLCP) provides participants with the opportunity to undertake an action research project. Participants choose to focus on an area of student learning that:

- is of significant professional interest to the participant;
- arises from participation in the ISX Professional Learning Institutes;
- is aligned to the ISX agreed best practices for international teaching.

Participants are free to choose an area of individual interest, or may form a learning partnership with others in the Year Three cohort to focus on a shared topic. In both cases, it is required that the participants are in regular discussion with the Year Three cohort regarding their research project. The framework to be used for all the research projects is described below.

The Look, Think, Act Model of Action Research

Action research is a popular and well-established form of practitioner research. Essentially, it is an evidence based form of enquiry or problem solving that "…involves a spiral cycle of *planning*, *acting*, *observing* and *reflecting*." (Robinson, 1997, p. 438).

There are many different variations of action research. The one we use at ISX is adapted from the ***Look, Think, Act Model*** developed by Eric Stringer (1999). An advantage of this model is that, in many ways, it is a natural extension of the professional learning that participants will have experienced in Years One and Two of the PLCP. Each stage of the research is clearly defined and can be expressed as a set of essential questions. These questions help to get to the essence of the subject, generating deep understanding through reflection, discussion, data collection and action. While some of the steps might sound a little daunting at first, a research guidebook has been designed to, well guide, participants through the process. Over time, a library of PLCP research projects will also be developed to further illustrate how this approach might be used.

Using The Look, Think, Act Model of Action Research at ISX

Stage One LOOK: Building the Picture

Essential Question:

- **How might I find a focus for my research project?**

First steps:

- Begin with a broad area of interest linked to a learning institute;
- Consider:
  - What is it that is particularly interesting / challenging about this topic?

    How does this link to my current teaching practice?
- Next, from your responses to the above questions, identify a possible focus for your research;
- Now try to phrase your research focus as an essential question;
- Communicate this question to the other cohort members:
  - This will help to refine your question and to see if there are others in the cohort with the same / similar questions. You might want to consider conducting your research in collaboration them.

- Record your revised research question as clearly as possible. Think about:
  - What aspect of student learning am I really interested in?

Handy Hint Number One: START SMALL
Your project will invariably grow over time.

Stage Two THINK: Collecting and interpreting data about what is currently happening in your classroom

Essential Questions:

1. What might the learning look like?
2. What data do I need to collect to help answer my question?
3. How will I collect this data?
4. What will I do with this data once I've collected?
5. What might the data be telling me about student learning?

Next Steps

- Create a concept map to illustrate the observable characteristics of the learning;
- Design data collection instruments and analytical frameworks to gain an initial understanding of the question;
- Review the above with the cohort group before you use them;
- Conduct initial enquiry;
- Analyze the data using the framework you have designed;
- Share initial insights and possible responses with the group;

Handy Hint Number Two: STAY SMALL
Rather than trying to collect data about all the students in your class, consider selecting a small focus group of students. Remember the mantra "depth not breadth". You do have other stuff to do too!

Stage Three Act: Positive intervention and communication (or the "So Wot? Stage")

Essential questions:

1. Knowing what I now know about student learning in my class, what do I want to do differently?
2. How will I implement this change?
3. When will I implement this change?
4. Which students will form my focus group?
5. What changes do I expect to see in this group in response to the change I plan to make?
6. How will I collect and record evidence relating to this change?
7. How will I analyze the data I collect?
8. What does the data tell me about the impact of my change on student learning?
9. To whom will I communicate my plans and findings?
10. How will I communicate my findings?

Next Steps

- Describe your proposed change clearly in writing;
- Plan how and when you will activate this change;
- Carefully select your focus group;
- Describe carefully what impact you expect your change to have on student learning;
- Design data collection and analysis tools;
- Identify how you will communicate you plans and findings;
- Share your ideas on all of the above with the other cohort members;
- Do it! Good luck, you have worked so hard you will have a great experience.

Handy Hint Number Three: TAKE YOUR TIME
This is where all your hard work comes together to create something special. Don't be tempted to rush. Respond to each question fully before you go ahead. It will really be worth the effort.

Additional Notes

This Look, Think, Act cycle described above may be repeated a number of times if time allows. Depending on the interests of the participants, the research may also be conducted at varying levels of sophistication, giving consideration to key methodological concerns such as ethics, reliability, generalisabilty and validity.

Appendix IX Sample photos of interview response collation


Positive Role Models
Who do you know who is using MTV?
Tori (I tutor one of her students)
About a third. I'm not sure. We haven't discussed it.
70 teachers have trained. Quite a number have only dabbled. 25% are really using it.
Allison F, the grade 5 team, MAB, KH, Eileen.
Eileen, Jeffrey, Steve. I don't know. 20-25 in ISB (more?)
80-90% in the ECC because that's how you teach.
6-7 in the ECC ES-I don't know
MS and HS I have no idea!
10-15 people actively involved
7-10 people
Isabelle, Leyla(gone) Allison(gone) No-one in my department who's still here. A dozen in ISB at least.
Most of the science teachers in the MS. Maths teacher in the MS. Julie MacDonald. I'm not sure. Everybody does something. Each teacher has their own way of making thinking visible in their way. Maybe 12.
Kevin Hanley, Suzanne, Miles, Heidi, Jenny Cook, Chris R, MAB.
About 20
Most?
ECC and ES, because we do more hands on type learning and reflective learning and it's more open-ended.
I don't know
ECC and ES
ES ECC a couple of HS teachers. Presenters for the study group are often ECC or ES
ES Mostly ES teachers attend institutes. In HS there's a perception that there is no time for it-there's curriculum to cover.
Lower School, because of IB. There's a cut off point. Grade 10 upwards there's less.
ES (but I don't really know)
Equally spread, but no evidence. I have a feeling that there are individuals all over the school who've done the training and are using it.
ES They suit an ES classroom particularly well
No idea. I would guess the ECC or ES. The teachers are more amenable to it (I've heard comments)
Least?
HS, because of constraints of curriculum and IB course. The MS and HS have other constraints like exams.
MS-I think because it's not emphasized, we don't see models of, for application.
MS-because I never see anybody from the MS
Why? I don't know. I have a feeling that there's a higher interest in pedagogy in the Elementary Divisions. The Secondary Divisions are more subject/content oriented. Pedagogy is important to make the understanding effective, but the real time and energy is spent on subject matter.
5% in MS.
I don't know
I would say 60% in ES.
MS I don't hear about any talk of MTV
It tends to die in Grades 11 and 12. They say they haven't the time. 11 and 12 teachers need to take the time to learn the routines themselves and get over the hurdle!
MS But that's not fair, because I don't happen to know anybody in the MS
HS, because they have 'external pressure' so they don't have the time (said ironically)
HS (But I don't know)

Appendix X Example of a typed up interview-Teacher 3

Semi-structured Interview Schedule Researcher:Annie Bruce

Date of Interview 5/6/08
Name of Interviewee Teacher 3
Venue School X
Topic : MTV Innovation

1. **How long have you been at this school? 9 years**

2. **What is your position? XX**

3. **To what extent are you a participant in "Making Thinking Visible"?**

PROMPT:

Attended 4 day MTV SUMMER INSTITUTE	**Yes**	
MTV mid-year PD with Ron Ritchhart	**1**	
Spring 3 day MTV Conference		**No**
Interns and Mentees Colloquium	**1**	
MTV (Looking at Learning) Study Groups	**1**	
MTV (Looking at Learning) March9th PD		**3**
MTV Website	**1**	
Using reflection,language of thinking in class		**2**
Learning from reading		**2**
Conversations	**1**	
Own interest and research	**1**	
Team Unit Planning-activities & assessments	**1**	
Appraisal by Head	**1**	
Co-teaching	**1**	
Classroom observations	**1**	

Modelling at faculty meetings **1**
ESL in the Mainstream
Learning Credit **1**
Using MTV Routines in my lessons **2 a bit**
How would you describe "Making Thinking Visible"? (definition…)
A student-centred classroom that is emphasizing the process as well as the product, or more so than the product. Inductive, getting syudents to become more active in their learning through questioning, giving evidence. Emphasis on higher order thinking
4. (vision)

What would you say are the three most important values at your school? ***Inclusion, success, challenged. It's our mantra. In some ways it's our easy way out. It's a good philosophy, but because it's used over and over it's become meaningless.Even the kids make fun of it!***
What are the underlying assumptions about working as a teacher in your school? (expectations)
We can deal with it! I guess that as teachers we will be able to deal with any type of student, as long as we are using scaffolding, differentiation techniques, it shouldn't be a problem, we should be able to include everyone, challenge everyone and make them successful.
What do *<u>you</u>* personally value most for your students in their learning?*Making connections with students, having students feel comfortable, "affective" element, safety in the class. Having a structure with high expectations, but, within that, creativity, getting students to take risks, to experiment. Bringing out their potential.*
5. (formal training)

How much do you know about MTV, generally. **2**
I knew more before! When I did the 4 day course, I didn't follow through enough.
Do you feel you have had enough formal training in MTV? 1
Do you feel you have had enough informal training in MTV? 1

6. (involvement of the learner)

How involved do you feel in using MTV ideas in your classroom?
1 ***I <u>was</u> keen, but…other things came in…..***
How much do you feel in control of the management of your own learning about MTV, your opportunities to train and to practice at your own optimal pace and in your own way?
3

7. (family groups and teams)

To what extent are you helped by team planning to incorporate MTV ideas into your teaching? **1** ***At the XS there isn't that much going on with it. It's not something I hear at faculty meetings, that XS teachers seem very involved with.***
How do you feel about trying MTV ideas in your classroom? (not interested, supported, encouraged, no idea where to begin…….)
There is encouragement, the emails come, there is a group meeting. I'm less involved. But if I really want to do it, and make the time for it, there's a structure in place. The 4 o'clock meetings I can never make.

8. (practice fields, coaches, feedback)

To what extent have you learnt MTV routines from being coached, by trying out ideas and receiving feedback? 1
Which MTV routines have you used?
HEADLINES, THINKPAIRSHARE, the one that's a different take on I know, I want to know, ISEE, IWONDER? That idea of what do you see in this, what do you think ? To look at things. I put up words in the classroom-thinking words-but I don't go far with it. Sometimes it wasn't the straight routine, but it was based on some of the philosophy, with a similar goal in mind-observing, wondering and questioning. For me it was a way of getting kids active and really thinking, looking at the different sides of an issue, questioning, trying to look for different solutions.

How frequently do you use routines?
a few times
Do you feel you have been given the time, the resources, the coaching, and valid feedback about using MTV ideas? 1
Why? How? Why not?
I could have. If I had said "I need a sub to do this' the head would have said yes. I could, if I had the time or was willing to. I could have come to the study group or had a partner to observe lessons. It's there-there are people on campus working with these ideas. I know I could have help with it.

9. (positive role models)

Who do you know is using MTV? (guess at approximate number)
10-15 people actively involved
Which divisions of the school are using them most, do you think?
Why? ***ES ECC a couple of HS teachers. Presenters for the study group are often ECC or ES***
Which divisions of the school are using them least, do you think?
Why? MS I don't hear about any talk of MTV
Have you had the chance to observe the use of MTV
in classrooms? 1
in faculty meetings? 1
in study groups? 1
in team planning? 1
through the MTV website? 1
1=not at all 2=to a certain extent (with examples) 3=a great deal (with examples)

10. (support groups)
Have you been involved in the after school study groups?
1
Have you found them helpful? 1
Why, why not? X

11.(reward and discipline system)

What do you know about the proposed Learning Credits?
I know that it requires a journal and participation in the study groups, and would involve more time than I was able to give

Do you think they'll encourage you to

A) attend study groups? 3

B) carry out action research? 3

C) learn more about MTV? 3

Have you been appraised by the Head recently? Yes-last year
What did you learn from that experience?
It was nice to get feedback, but I didn't feel it was pushing me to a higher level. It was fine, nice, collegial and professional.

12. (multiple innovations)

Thinking about the many new initiatives at the school during the last years, what is your strategy for prioritizing and implementing innovation?
PROMPT: Rubicon? Blackboard? Looking at Learning? New Zealand Math? First Steps? Portfolio conferences? Matrix curriculum work? Team planning?
I find it very overwhelming. Part of our problem is that there is so much, it's hard to prioritise. Some of it gets prioritised for us-e.g. Rubicon, BB. We've lost the focus of learning, with the BB and the laptops, the basic teaching that we're doing is getting a bit lost.

13. How embedded or institutionalised do you feel MTV is in your school?

MS-not much at all. The school as a whole? More so.

14. Is there anything you'd like to add on the topic of "Making Thinking Visible"?

It is something useful. What I'd like is to see how all these things that we're doing connect together. On the institutes, with all these institutes, I've tried to do a different one every year. MTV, Differentiation, Technology, I feel like Jack of all trades, master of none! In some ways I wish I had just carried through

with MTV. I liked it…looked at all its variations. I saw relevance to my classroom…
I learned bits in everything, but when I look at what has actually filtered down into my teaching, it doesn't seem to have affected it as much as it should.
Instead of trying to look at my teaching and focusing on one lens to look through everything with-instead of this scattered feeling. Because it became overwhelming, I sort of fell back into what I know well.
In order for professional development to work, to change behaviour, it has to somehow be done at the level of planning. A 4day or a week's workshop is not enough. There has to be some follow up.

Appendix XI Verbatim Comments from Interviewees in Tables

Table to show MTV Strategies and Routines used.

Teachers who were interviewed.	MTV Routines used	Other MTV Strategies used and articulated
Teacher 1	TPS Headlines	Brainstorming. Reflecting. Students lead instruction.
Teacher 2	STW Used to/now TPE 321Bridge GSCE	In previous role in ES,opened every unit with an MTV routine. Used 3 or 4 routines during every unit.
Teacher 3	Headlines TPS STW	Thinking words displayed. Observing. Wondering. Questioning. Looking at different sides of an issue. Looking for different solutions.
Teacher 4	None	Interpreting things graphically. Looking at data, trying to understand what the data tells. Chunking.
Teacher 5	STW What Makes you say that? TPE TPS Headlines CEC Making it Fair SLL	Routines used systematically. Daily use. Repetition of routines.
Teacher 6	STW	
Teacher 7	STW The belief one The care about one Headlines C of V	Including a thinking routine in Unit planning. Giving students opportunities to reflect and question.
Teacher 8		
Teacher 9	C of V	Self-reflection for parent/teacher

		conferences.
Teacher 10	TPS STW Headlines WPS What makes you say that? What's going on here? 321Bridge Compass points. C of V	Painted metaphor reflection every week. Written reflections every week.
Teacher 11	STW GSCE Tug of War StepInside I used to think	Research projects across grade levels.

Table to show comments about Formal and Informal Training

Teachers interviewed	Comments
Teacher 1	
Teacher 2	
Teacher 3	I knew more before! When I did the four day course, I didn't follow through enough.
Teacher 4	
Teacher 5	I wish that I worked with colleagues more closely who believed in MTV and who could have MTV conversations with me over lunch!
Teacher 6	I did PZ week in the summer. I did the MTV 3 days in Amsterdam.
Teacher 7	
Teacher 8	I know about it, I know the names of some routines, I've read some articles, I know a little.
Teacher 9	
Teacher 10	I will always go on learning. There's never enough. I use it with teachers and with students. I'm not anticipating stopping.
Teacher 11	I've had lots and lots. I'm very lucky.

Table to show comments about involvement, control and pacing of teacher learning.

Teachers interviewed	Comments

Teacher 1	It's dependent on me, how active I want to be. Due to other constraints, time, other focuses that the school is going in, you have to try to keep a balance there. There's just so many different ways you could be pulling yourself.
Teacher 2	
Teacher 3	I was keen...but other things came in.
Teacher 4	
Teacher 5	Because other stuff gets in the way, school housekeeping. I would like faculty meetings to be more about learning, more intellectual. Looking at children as learners, and discussing selected examples of learning.
Teacher 6	
Teacher 7	Ideally MTV slows things down and takes the time to reflect on things deeply, but the pace of our school doesn't allow for that. In a lot of ways we're a 'train track' school.
Teacher 8	I like practice, so I use the same routine over and over. But new ones scare me. I feel like I'm always running behind. I can't take advantage of opportunities that are available, because I don't have time. I feel like the more you teach the more there is to learn about teaching.
Teacher 9	If I choose to use the technique, I'm very involved, but it's not a constant. I have spurned some of the opportunities of MTV sessions/Looking at Learning sessions. I don't feel comfortable. I understand what they're there for, the constraints, the processes, but I don't feel comfortable. (Interviewer-"How would you prefer it?") I'm not sure.
Teacher 10	Totally committed. There's always opportunities.
Teacher 11	We have an amazing principal of the whole school. She has been 100% behind this. She has freed us up during class time to go to study groups. She organised a sponsor-donator to support MTV ideas, emergency teachers, going to conferences, holding conferences at our school. Occasionally Ron will come out from Harvard to give us guidance/feedback for up to a week. Three or four times a year-Ron, Mark, David, Shari(Harvard researchers). We had a five year sponsorship and it runs out at the end of next year. (Dec 2009) It was very generous.

Table to show comments about family groups and teams

Teachers interviewed	How do you feel about trying MTV ideas in your classroom?
Teacher 1	I'm always interested if a strategy is useful and it might work, and is practical.
Teacher 2	My team leader has no background, has never taken the institute. I feel motivated to include more than I do, but somewhat isolated, as it feels I'm the only one with background knowledge of MTV.
Teacher 3	At the MS there isn't that much going on with it. It's not something I hear about at faculty meetings, that MS teachers seem very involved with. There is encouragement, the emails come. If I really want to do it, and make time for it, there's a structure in place. The four o'clock meetings I can never make.
Teacher 4	We do, as a department, and people come up with different strategies that we can use in particular lessons or units. I feel supported and encouraged.
Teacher 5	I try. Another member of the team uses MTV ideas, but does not readily share. People will encourage me to use the routines. The Head suggested that I move to another grade where it's fertile ground for spreading ideas.
Teacher 6	Supported, in that I know that administration supports it. It should be part of our ongoing Professional Development through in-service training throughout the year. It would be good to have a faculty focus on MTV, for the year.
Teacher 7	In some teams a lot-there are people in the team who see the value of it. In some teams, they haven't had the training, they don't understand it, so it's harder to incorporate. I feel excited! The kids are my little guinea pigs-you try something out, it's exciting to see what they do.
Teacher 8	I feel interested, supported, encouraged. I try some things in a shy way. How to begin?
Teacher 9	Supported-the fact that it worked before. The fact that my colleagues say 'Oh, that looks interesting'. Nebulous, positive feedback.
Teacher 10	There are three new teachers in the grade-I'm helping them. I talk to my experienced colleagues and they give me ideas. I feel totally encouraged by the school. Teachers are choosing new routines to try out for observations by Heads.

Teacher 11	A little bit. It's my initiative. I feel very interested. My role is to encourage others. I try to encourage the teachers to be involved.

Table to show comments about practice fields, coaches and feedback

Teachers interviewed	Comments
Teacher 1	No-one has come and offered me the time, the flexibility to attend a workshop or have some coaching. We had that March 9th day, and I went to that because I was curious and it was interesting and useful.
Teacher 2	Through the MTV groups (Looking at Learning). Just the first year, and I didn't do all of them, I wish I had. And the Institute, of course.
Teacher 3	I could have. If I had said, 'I need a sub to do this' the Head would have said yes. I could, if I had the time or was willing to. I could have come to the study group or had a partner to observe lessons. It's there-there are people on campus working with these ideas. I know I could have help with it.
Teacher 4	It's clear the school supports people who want to add to their repertoire of techniques. I just have chosen different ones.
Teacher 5	If I hadn't had all three I wouldn't have continued as I have done. Professional Development, Harvard in the summer, Amsterdam, Institutes, Faculty led. Faculty colleagues-feedback, good conversations. MTV/Looking at Learning study group sessions. Presenting/Feedback. Feedback from children. BUT I lack coaching, people's approach to what I do. I've had some observations and those people have given me feedback-other teachers, parents.
Teacher 6	We don't take MTV on as a faculty. Because it's optional, there isn't quite the same drive to use it. I sort of use it naturally in my teaching, but because it's an optional individual choice, it's not totally embedded in my philosophy. It's not been one of the main driving goals for our division's professional development.
Teacher 7	No, because MTV hasn't been the focus of any observations that I've had. It hasn't been the focus. It hasn't been prioritised.
Teacher 8	Last year the MTV Institute wasn't on. I haven't had the chance to take the MTV Institute. I went to the Differentiation one.
Teacher 9	The only coaching I've received was from yourself. I

	tried the routine once, and could see that if I did it better, and on subsequent occasions when I've used it more, I've got more from it, and the students have got more from it. It's not in common parlance in our department.
Teacher 10	
Teacher 11	The schoo0l is 100% supportive. You can ask anyone. K runs VT throughout the school. We've had lots of opportunities to go to conferences in Melbourne, to present in Australia. We have regular study groups within school time. She'll adjust feedback, so we don't get bored. Last year we did the Environment, this year we're doing Relationship[s. We're going through Ron's eight cultural forces.The protocol was really good at focusing us, but after two years we got bored, we knew how to do it, we were ready for more and we wanted to move forward. That's when we started the research projects across the grade levels. Sometimes Primary and Secondary teachers paired up (2 or 3). With someone you had to find a question you wanted to delve into. People did different things and presented them to the staff.

Table to show comments about positive role models

Teachers interviewed	Who is using MTV?	Which division is using them most?	Which division is using them least?
Teacher 1	About a third? I don't know, we haven't discussed it. 1 named.	ECC and ES because we do more hands on type learning and reflective learning and it's more open-ended.	HS, because of the constraints of curriculum and IB course. The MS and HS have other constraints like exams.
Teacher 2	Maybe 12. 80-90% in the ECC because that's how you teach. 4 named, plus one grade level team.	ECC and ES	MS 5% I think because it's not emphasised, we don't see models of, for application.

Teacher 3	Presenters for the study group are often ECC or ES. 10-15 people actively involved.	ECC ES A couple of HS teachers.	MS. I don't hear about any talk of MTV.
Teacher 4	No-one in my dept. who's still here. A dozen at School X at least.	I don't know.	I don't know. I have a feeling that there's a higher interest in pedagogy in the Elementary Divisions. The Secondary Divisions are more subject/content oriented. Pedagogy is important to make the understanding effective, but the real time and energy is spent on subject matter.
Teacher 5	7-10 people.	ES, but I don't really know.	MS, because I never see anybody from the MS.
Teacher 6	3 named. I don't know. 20-25 in School X.(more?)	Equally spread, but I have no evidence. I have the feeling that there are individuals all over the school who've done the training and are using it.	I don't know.
Teacher 7	6-7 in the ECC. ES-I don't know. MS and HS I have no idea!	No idea. I would guess the ECC or ES. The teachers are more amenable to it. (I've heard comments.)	HS, because they have 'external pressure' so they don't have the time (said ironically).
Teacher 8	Maybe 12.	Mostly ES	HS, but I don't know.

	Every teacher has their own way of making thinking visible in their way.	teachers attend Institutes. In HS there's a perception that there is no time for it- there's curriculum to cover.	
Teacher 9	7 named. About 20.	ES. They suit an ES classroom particularly well.	MS, but that's not fair, because I don't happen to know anybody in the MS.
Teacher 10	70 teachers have trained. Quite a number have only dabbled. 25% are really using it.	Lower School, because of IB. There's a cut off point. Grade 10 upwards there's less.	It tends to die in Grades 11 and 12. They say they haven't the time.11 and 12 teachers need to take the time to learn the routines themselves and get over the hurdle!
Teacher 11	/	/	/

Table to show comments about MTV study support group

Teachers interviewed	Comments
Teacher 1	
Teacher 2	It's always beneficial to see ideas in practice. It gives you new ways of incorporating the routines.
Teacher 3	
Teacher 4	
Teacher 5	Really helpful, because I have the opportunity to be bathed in MTV language and thinking and practice.
Teacher 6	
Teacher 7	Because the routine of the study group makes me do what I expect kids to do. It reminds me of what it's like to be a participant in a metacognitive process.
Teacher 8	I haven't seen a big enough variety. People don't dare to present, because they don't want to be judged.
Teacher 9	The presenter was getting children to reflect on their learning. Because it was coming up to parent conferences, I needed to get my students to do some self-reflection.

Teacher 10	Very helpful.
Teacher 11	

Table to show comments about teacher appraisal - reward and discipline system.

Teachers interviewed	What did you learn from the appraisal from your Head?
Teacher 1	
Teacher 2	
Teacher 3	It was nice to get feedback, but I didn't feel it was pushing me to a higher level. It was fine, nice, collegial and professional.
Teacher 4	It was one of the more thorough appraisals I've had in my career. There were several observations and an interview
Teacher 5	That I feel more comfortable being observed by a colleague than my Head. I felt the Head's presence intimidating, whereas I don't feel that with a colleague.
Teacher 6	Informally. The emphasis wasn't on MTV.
Teacher 7	That I have a lot to learn! My areas of growth need to be diplomacy and patience. Long term vision.
Teacher 8	That I need to change my markers more often.
Teacher 9	The system was new to me. I liked the fact that you could plan and choose the apprised lesson. I liked the fact that you had the opportunity to discuss it prior to it happened. I found the process positive and supportive. I learnt that my instincts were correct.
Teacher 10	I learned to value my own teaching more. It was my first assessment for 6 years. I didn't know if I was on the right track. It gave me a boost in my confidence when they (praised) (that) the planning, the delivery, the questioning, the empowerment, the feedback I give the students.
Teacher 11	/